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ABSTRACT

This document contains 21 papers: "Land Grant University and Extension in the 21st Century" (Jon Wefald); "A Reality Check" (Bud Webb); "Land Grant Colleges and Universities of the Future" (Michael J. Phillips); "Vulnerability of the Land Grant Colleges of Agriculture: A Public Affairs Perspective" (Allen Rosenfeld); "The Future of Land Grant Universities: A Response to the Report of the National Research Council" (LeRoy Luft); "Priorities in the Changing World of Agriculture" (I. Miley Gonzalez); "Agricultural Policy at the End of the 20th Century" (Luther Tweeten); "The Realities of Agricultural Policy--A Producer Perspective" (Eugene Paul); "Opening Remarks by the Moderator" (James C. Webster); "Industrialization of Agriculture or a Realignment of the Food and Agriculture System" (Terry N. Barr); "Industrialization: A View from Agribusiness" (Ed McMillan); "Industrialization of Agriculture Roundtable Discussion" (Ed McMillan, Terry N. Barr, Marvin Duncan, James C. Webster); "Evolving Environmental Law: Impacts on Private Landowners and Public Uses" (Bruce Yandle); "Implementing Good Intentions: How Rules and Procedures May Alter Resource Policy Outcomes" (Lawrence W. Libby); "The Why and How of Welfare Reform" (Julie Paradis); "Welfare Reform: A State Perspective" (James Clark); "Welfare Reform: The Land Grant University Response" (Bonnie Braun); "The Changing Nature of Rural Communities" (Thomas G. Johnson, James K. Scott); "Impact of the Wal-Mart Phenomenon on Rural Communities" (Kenneth E. Stone); "Immigration and the Changing Face of Rural America" (Philip Martin); and "Impact of Services on Rural Communities" (Dennis U. Fisher). (MN)

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Increasing Understanding of Public Problems and Policies

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1996 Changing Federalism • Forces that Shape Our National Values: Implications for Policy Education • The 1996 Farm Bill: Implications for Farmers, Families, Consumers and Rural Communities • Societal Issues of Work and Family • Property Rights: Their Allocation and Distribution

Farm Foundation

Increasing Understanding of Public Problems and Policies

1997

- The Future of Land Grant Universities
- Agricultural Policy at the End of the 20th Century
- Industrialization of Agriculture
- Administering Environmental Law: Impacts on Private Landowners and Public Uses
- Welfare Reform
- The Changing Nature of Rural Communities

Increasing Understanding of Public Problems and Policies—1997
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FOREWORD

This publication reports the major discussions of the 47th National Public Policy Education Conference, held September 21-24, 1997, in Charleston, South Carolina. The 148 participants represented most states, the United States Department of Agriculture and other public agencies.

The conference series is designed to improve the policy education efforts of those extension workers responsible for public affairs programs. The ultimate goal is to help citizens, repeatedly faced with solving local and national problems, to make more intelligent and responsible decisions.

Specific objectives include:

- to provide timely and useful information on public issues
- to explore different approaches to conducting public policy education programs
- to share ideas and experiences in policy education

Farm Foundation finances the instructional staff for this annual conference, as well as the transportation of one individual from each Extension Service. The Foundation plans each conference in conjunction with the National Public Policy Education Committee. It also finances publication and distribution of these yearly proceedings, which are made available to state and county Extension personnel, teachers, students, and others interested in increasing understanding of public policy issues.

Harold M. Harris, Jr., Chairman
National Public Policy
Education Committee

Walter J. Armbruster
Managing Director
Farm Foundation

December 1997

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R.J. Hildreth Award

FOR

Career Achievement in Public Policy Education

To encourage scholarship and leadership within the policy education professional community by recognizing individuals who have demonstrated excellence through public policy education programs over their career.

Alan Hahn

Alan Hahn has made major contributions to his fellow extension educators through his leadership in advancing public issues education methodology. Hahn's insights from the disciplines of government and public affairs have helped in addressing the complexities of modern issues, changing decision-making processes and new extension audiences.

Hahn earned a Ph.D. degree in Government in 1969 from Indiana University from which he also holds a M.A. in Government and a B.A. in Sociology. He joined the Department of Consumer Economics and Housing at Cornell University in 1969 where he served until 1976. From 1976 until he retired in 1996, he was on the faculty of the Department of Human Service Studies. Hahn has served on the Northeast Public Policy Education Committee and has been a presenter at a number of National Public Policy Conferences.

Hahn has been a major contributor to several publications of enduring quality. He wrote "Education for Public Decisions" modules of "*Working with Our Publics*" ("Stages of Decision-making" in Unit II and "Issues Evolution/Educational Intervention" in Unit IV). He was a leader of the 1993-94 Public Issues Education Task Force of the National Public Policy Education Committee which led to publication of *Public Issues Education: Increasing Competence in Resolving Public Issues.* He was lead writer for the sections on working with the news media and evaluating public issues education (Chapter 4). *Educating About Public Issues: Lessons from Eleven Innovative Public Policy Education Projects*, co-authored with Jennifer Greene evaluated eleven innovative policy education projects and in the process identified lessons learned about effective coalitions for public policy education.

Irvin W. Skelton

"Irv" Skelton's contributions to public issues education have been in the form of wise advice to policy educators and their organizations, his strong administrative support, and his liaison role between extension administration, USDA, Farm Foundation, and the policy education community.

Skelton received a B.S. in Ag[illegible]usiness from the University of Wyoming, a M.Ed in Extension Education from Colorado State University, and a Ph.D. in Agronomy from the University of Wyoming. During his 37 year extension career, Skelton held a number of positions ranging from the county level to the state level administrative positions in Wyoming, New Mexico, and Alaska. He retired from the University of Alaska, Fairbanks, in June of 1997.

Irv served as Administrative Advisor for the Western Public Policy Committee and as a member of the National Public Policy Education Committee from 1987-1996. His involvement on these committees has not been as a sleepy participant at mundane gatherings. He has kept participants involved in meetings with his quick wit, in depth comments and critiques. He asks the tough questions and encourages educators to view public issues as both an educational process and a public service. He has functioned as a mentor and as a taskmaster.

W. Fred Woods

W. Fred Woods is National Program Leader, Public Policy/Issues Education, Cooperative Research, Education and Extension Service-USDA. Representing the federal partner in extension work, Woods has been a staunch advocate of sound public issues education methodology, a source of up-to-date information on p[illegible] developments, and catalyst-facilitator for many important regional and national public policy projects. Through his efforts, the doors of policy makers were opened to policy educators and linkages made to relevant implementing agencies and interest groups.

Woods received his B.S. degree in Agriculture in 1960 and his M.S. in 1961 from Auburn University. He completed course work for a Ph.D. degree in Public Finance at American University in Washington, D.C. Fred has 23 years of service to public policy education. He has served as the USDA representative on the National Public Policy Education Committee and has attended the National Public Policy Education Conference for most of those 23 years. In his role as a National Program Leader he has secured funding for important national and regional committee projects; and he has authored hundreds of papers, articles, and bulletins on key public issues as well as on extension methodology. He managed and directed efforts to improve extension program evaluation and accountability and has been an effective policy educator in his own right with an array of groups that move through Washington, D.C. Fred does his work tirelessly, with a sense of humor and with an undying belief that the Land Grant-USDA system can work efficiently.

Outstanding Achievement in Public Issues Education

To encourage scholarship and leadership within the policy education professional community by recognizing extension education programs that have demonstrated excellence in scholarship, provided important public service, and demonstrated innovativeness.

1997 Award

Responding Knowledgeably: From Welfare Reform to Well-Being

Jean W. Bauer, Ph.D., Professor, Family Social Science, University of Minnesota
Bonnie Braun, Ph.D., Associate Dean of Outreach and Associate Professor, Family Social Science, University of Minnesota

Jean Bauer and Bonnie Braun seized the opportunity to educate citizens on the complex public policy issue of welfare reform. The 1996 welfare reform legislation dramatically changed 61 years of government assistance to families. *Responding Knowledgeably: From Welfare Reform to Well-Being* was designed to (1) increase awareness of the historic and contemporary nature of public assistance legislation in the U.S., (2) facilitate exchange of information, concerns, and ideas among community and professional leaders, and (3) refocus the legislation from the problem (welfare for a few) to the opportunity (well being for all) using research and theoretical frameworks. The program focused on the "five I's" of information, issues, impact, implications, and imperatives. Educational forums with the public started six weeks after passage of the 1996 welfare reform legislation. Program elements included state and national satellite broadcasts, a national welfare reform think-tank, in-service training for extension faculty, presentations to professional society meetings, and development of a welfare reform web page. For this public policy programming to be effective, it had to reach large numbers of people, with diverse levels of knowledge and attitudes, dispersed across the state and nation within a short time frame. Bonnie and Jean built the capacity of this program to meet the needs of multiple learners with the innovative use of electronic technologies. While ultimate outcomes remain to be seen, reaction to this program from citizens and public officials has been very favorable.

Abstracts

The Future of Land Grant Universities

Land Grant University Research and Extension in the 21st Century

John Wefald
Kansas State University

Agriculture has been important throughout human history and remains so today. One of the major reasons for the success of U.S. agriculture has been the land grant university system. Land grant universities—as educational institutions, cultivators of research and through their extension function—have transmitted technology and expertise throughout the agribusiness chain. Kansas State, a land grant university, is conscious of the successes of the past and is looking forward to addressing the challenges of the 21st Century.

A Reality Check

Bud Webb
South Carolina General Assembly

University faculty are viewed by legislatures as the most over-paid, under-worked group of individuals in the world. For example, although a Clemson faculty member teaches an average of seven or eight hours a semester, some members of the South Carolina legislature take that literally. Furthermore, legislators and businesspeople do not understand tenure. They perceive it as a 30-year faculty contract that protects nonproductivity and misconduct. Since perception is reality, the issue is how do we change perceptions?

Land Grant Colleges and Universities of the Future

Michael J. Phillips
National Research Council

In the future, the ability of U.S. agriculture to capitalize on trade opportunities will depend less on subsidization by the government and more on gains in efficiency and productivity—which can only be achieved if this country has a strong agricultural research base. Ensuring the conduct and quality of agricultural education and research has historically been entrusted with the land grant colleges of agriculture (LGCAs). However, many questions have been raised as to whether LGCAs have positioned themselves to meet the challenges of the 21st Century. The National Research Council report concluded that a national science and education infrastructure that underpins continued advances in the food and agricultural system and federal support of that system, remains squarely in the national interest. It also concluded that,

although the land grant system has served the nation well, there is need for change in four principle areas: relevancy, efficiency, commitment, and accountability.

Vulnerability of the Land Grant Colleges of Agriculture: A Public Affairs Perspective

Allen Rosenfeld
M&R Strategic Services

The National Research Council report on the land grant colleges of agriculture (LGCA) is a long-overdue warning that the decades-old public policy debate over LGCA issues has produced very little substantive change in the system, and that further delay could have unforeseen negative consequences. In this sense, the report's recommendations are not simply just one among many sets of ideas to be dusted off the shelf for the next seminar, colloquium or public policy education conference. Rather, they could be put to better use as a possible road map for navigating some of the political rapids that are carrying the LGCAs toward a new public policy crossroad.

The Future of Land Grant Universities: A Response to the Report of the National Research Council

LeRoy Luft
Idaho Cooperative Extension System

The National Research Council (NRC) report on the land grant colleges of agriculture (LGCA) has identified a number of issues and has raised the level of discussion within the land grant system about these issues. A NRC/LGCA partnership must continue to work towards improvement and change. Real change must come at the level where the programs are conducted and consumed. Discussion of these issues should occur at each land grant institution across the country. Furthermore, the discussion is warranted at levels above the college of agriculture as well.

Future Opportunities and Challenges

Priorities in the Changing World of Agriculture

I. Miley Gonzalez
Under Secretary, Research, Education & Economics-USDA

We must improve the programs of the research, education and economics (REE) mission area of the USDA to meet the challenges ahead. We must address the concerns of producers, scientists, educators and other stakeholders and put forward

a clear articulation of a vision for the future. Under Secretary Gonzalez is committed to achieving these goals by working with Congress on a new research title to the farm bill. The advice of external customers and stakeholders, which has been a strong part of Under Secretary Gonzalez's past experience in the university system, will be used to continue and strengthen the method of program planning. The overall quality, relevance, and utility of our research and education portfolio must be reviewed. REE/USDA must continue its mission to provide knowledge that will help farmers, ranchers, and consumers solve the many problems they face and to provide for the development of youth as future leadership in all of our communities.

Agricultural Policy at the End of the 20th Century

Agricultural Policy at the End of the 20th Century

Luther Tweeten
The Ohio State University

Reform embodied in the Federal Agricultural Improvement and Reform Act of 1996 likely will be a lasting redirection of farm policy because directions conform to the emerging agricultural paradigm. That paradigm views agriculture not as earning chronic low returns on resources, but as near long-term economic equilibrium. Hence, raising national income through sound economic policies will raise farm resource returns. A major role for government will be to supply public goods and correct externalities: environmental programs, basic research, education, and information systems for economic efficiency. On equity grounds, support will continue for a safety net of marketing loans, revenue or income insurance, and a food security reserve.

The Realities of Agricultural Policy—A Producer Perspective

Eugene Paul
National Farmers Organization

The nation's food production system, from the independent producer's perspective, is examined. The choice between a vertically-integrated industrial model, one that emphasizes specialization or a historically successful diversified independent producer system, is discussed. Market domination by a handful of mega-firms suggests current agriculture policy does not encourage competition, and producers are not operating in a free, fair and open marketplace. Industrial feudalism, the role of policy makers, and the future of extension are examined; along with the current policies' effect on rural America's economic systems, the environment and people. Solutions for maintaining the independent producer structure are profiled.

Industrialization of Agriculture

Industrialization of Agriculture or A Realignment of the Food and Agricultural System?

Terry N. Barr
National Council of Farmer Cooperatives

The forces shaping the 1990s' expansion in the U.S. economy have carried over into the food and agriculture system. The re-engineering of corporate systems with a focus on reducing costs and shedding labor to enhance profits has resulted in a re-examination of business relationships in the food system. This environment, coupled with significant changes in technology, consumer preferences, deregulation and the emerging foreign market are altering the structural relationships in the system. The result will be a system of increasingly direct linkages from production agriculture to the evolving consumer niche markets with a focus on flexibility and efficiency.

Industrialization of Agriculture: A View From Agribusiness

Ed McMillan
Agri Business Group

A large commercial farm today, anywhere in the world, would be almost unrecognizable to the average farmer of the last century. At the same time, the success and growth of these large farms is not due to inherited land, capital or status but, rather, is the product of judicious use of publicly available technology. In short, today's farmer has been able to select and use new products and new technologies to "industrialize" production, capitalizing on economies of scale to improve production, management and marketing systems. Yet, there are several fundamental differences between the apparent "industrialization" of agriculture and the industrialization associated with manufacturing methods of mass production. These fundamental differences arise from the heart of the same factors that drive the use of industrialized production practices.

Administering Environmental Law: Impacts on Private Landowners and Public Uses

Evolving Environmental Law: Impacts on Private Landowners and Public Uses

Bruce Yandle
Clemson University

Private property rights did not evolve easily and are not well understood. Indeed, some people are so misinformed as to believe that private property rights are

the villain in the environmental saga; that politics and command-and-control are the solution. Most people today have matured in a world governed by the rule of politics. Few can recall the time when the rule of law governed the use of property. Because of this, private property is constantly threatened. All environmental problems, indeed all problems of resource use, begin with a commons and end with institutions—evolving environmental laws—that define and protect environmental rights.

Implementing Good Intentions: How Rules and Procedures May Alter Resource Policy Outcomes

Lawrence W. Libby
The Ohio State University

Administrative rules determine what actually happens when new natural resource or environmental laws are passed. In some cases, the good intentions of a new law are compromised by implementation. In others, the implementing rules actually improve the intended result. This paper considers how rules implementing the U.S. Endangered Species Act, the Environmental Quality Incentive Program and Florida's Bert J. Harris Property Rights Protection Act affect actual outcomes. For endangered species, incentives actually increase the threat to protected species; for environmental incentives, funds are widely distributed instead of concentrated for the greatest efficiency as suggested.

Welfare Reform

The Why and How of Welfare Reform

Julie Paradis
Committee on Agriculture, U.S. House of Representatives

The welfare of over 30 million people in the United States has been dramatically influenced over the last year by the implementation of the welfare reform bill signed at the end of the summer of 1996. Some of the factors driving the reform were: public demand, a desire for deficit reduction and a Republican-majority Congress. Comprehensive research is critical to learn the full impact of welfare reform on low income families. The next challenge for the states, the Congress and the administration is to ensure that welfare reform works, that those not working get jobs that will make them self-sufficient, and that the cycle of poverty is broken for millions of poor households.

Welfare Reform: A State Perspective

James Clark
South Carolina Department of Social Services

During the 19th and early-20th Centuries, there was very little federal legislation dealing with social welfare. In 1935, a dramatic shift in the non-interventionist traditions occurred with the passage of the Social Security Act. In 1950, Congress amended the act to include mothers. Toward the end of the 1950s there was another dramatic shift in social policy as Congress began to perceive the poor differently. Although our motives have been altruistic, we created a welfare institution and we institutionalized poverty. Society realized that we needed to change things and we did with welfare reform. Since the passage of welfare reform, welfare rolls nationally are down 24 percent from the levels they reached in 1993. South Carolina is one of the states that has had the greatest reduction. It is down in the last 2+ years by 44 percent. In South Carolina, welfare expenditures to Aid to Families with Dependent Children (AFDC) has gone from $9 million dollars a month to $5 million dollars a month. In South Carolina, we are putting over 1,000 AFDC recipients a month to work.

Welfare Reform: The Land Grant University Response

Bonnie Braun
University of Minnesota

In 1996, our nation re-examined welfare. This situation presented an opportunity for the inclusion of voices with authority and concern about the well-being of children, youths and families, as well as the nation. The conditions were right for the resources of the land grant university system to be mobilized—for its expertise to be applied to the problems, issues and opportunities surrounding welfare reform.

The Changing Nature of Rural Communities

The Changing Nature of Rural Communities

Thomas G. Johnson
and
James K. Scott
University of Missouri

A combination of economic change, demographic change and a change in our fundamental assumptions about governance is altering the fortunes of rural communities—some for the better and some for worse. This paper deals with the

changes that are leading to this dichotomization of economic fortunes. Emphasis is placed on those changes that have influenced the less fortunate communities and policy issues that arise therefrom. Economic changes include technology, globalization and localization. Important demographic changes include the aging of the population, and migration, commuting and settlement patterns. Under governance, the processes of devolution, decentralization of decision making, performance-based evaluation and privatization are reviewed. Basic research, policy analysis and policy education each has an important role to play in improving the fortunes of disadvantaged rural communities and their residents.

Impact of the Wal-Mart Phenomenon on Rural Communities

Kenneth E. Stone
Iowa State University

Rural communities have been suffering retail sales losses at least since the late-1880s when Wards and Sears initiated their mail order operations, but the losses inflicted by the discount mass merchandiser stores in the last two decades are probably the most severe. A 1997 study of Iowa towns with Wal-Mart stores at least 10 years old found that non Wal-Mart towns fare poorly compared to Wal-Mart towns. Towns under 2,500 population suffer the most, since they do not have a critical mass of stores and have little influence over the location decision. There is a need for the education of public officials in the economics of mass merchandiser stores.

Immigration and the Changing Face of Rural America

Philip Martin
University of California, Davis

Between 1980 and 1996, the United States admitted 13.5 million legal immigrants, including 3.3 million Mexicans. In 1996, the United States had 25 million foreign-born residents, including an estimated 5 million unauthorized aliens. Most immigrants are in urban areas, but an estimated 2 to 5 million are living in rural or agricultural areas. These immigrants are attracted by jobs in the fruit and vegetable industries in California, the meat packing industry in the Midwest and the poultry processing industry in the Eastern states. The influx of immigrants has introduced issues into rural and agricultural communities which they have not previously faced, such as bilingual education, public housing and other forms of assistance.

Impact of Services on Rural Communities

Dennis U. Fisher
Texas A&M University

The increasing importance of the service sector in the American economy is striking. Between 1969 and 1994, employment in the service sector (based on a narrow U.S. Department of Commerce definition) of the economy increased from 18 percent to 29 percent of total employment. Two forces are having a major impact on the availability and form of services in rural America: devolution and telecommunications technology. Governmental policies that promote the service sectors should have substantial development promise.

The Future of Land Grant Universities

LAND GRANT UNIVERSITY RESEARCH AND EXTENSION IN THE 21ST CENTURY

Jon Wefald
Kansas State University

I am happy and honored to address the 1997 National Public Policy Educational Conference. I want to talk about the land grant university now and as we head into the 21st Century.

Three Waves in History

From the time of Abraham and Moses, agriculture has been fundamental to the economy of the world. I am sure most people here have had an opportunity to read books by Alvin Toffler and John Nesbitt. In his book entitled *The Third Wave*, Alvin Toffler discerns three basic waves of civilization and human history: the agricultural era, the industrial era and the technological era. In all three waves, agriculture has played a primary role. Toffler's first wave, the agricultural era, dates from about 8,000 B.C. up to the 1750s or the early 19th Century. Since the time of Abraham, Moses and Ramses II, right down to the 17th and 18th Centuries, the ox, sickle and plow were symbolic of the agricultural era

Someone living in rural France in 1700 could more easily identify with someone in the first century A.D. or the fifth century B.C. than that person could identify with someone in 1900 or certainly 1950 or 1997. The farmers of 1800 used oxen, sickles and plows to produce the same wheat, barley and fruits that the ancient Egyptians tried to develop. This 10,000-year epoch was characterized by continuity, stability, permanence and tradition.

The great majority of people that lived during these thousands of years seldom got more than three or four miles from their home during their lifetime. In the 10,000 years from 8,000 B.C. to the 18th Century, the major advancement in speed occurred from 1,200 BC to 800 BC when the peoples of Syria and the Middle East invented the chariot. Man's speed tripled from about 5 miles per hour to 18 to 20 miles per hour. It took another 500 years to develop a horse with a back strong enough to carry a man.

Toffler then talks about the second wave, the industrial revolution, which he dates from about the 1750s to the 1950s and 1960s. In terms of this period, we go from 10,000 years in defining the agricultural era to about 300 years for the industrial revolution. Now, the new age of industrialism is defined by huge migrations of people from the land and the peasant villages to the cities to work in emerging huge industries. By the 1880s to the 1890s, this new industrial era was probably best illustrated by huge corporations, growing labor unions and an emerging strong

central government. Additionally, during this time there was consolidation, monopolization, centralization of government and an evolving welfare state. The new symbols are U.S. Steel, Standard Oil and Union Pacific. John Rockefeller, Andrew Carnegie and J.P. Morgan replaced the agrarian lords of the manor.

Toffler, then, talks about the third wave. It is a time span of less than 30 years. It is a new era of service, information and high technology. Quite frankly, it is this third wave that possibly, more than any other, helped topple the communist governments of Eastern Europe and the USSR. Those countries had articulated 5-year plans controlled from the top and they could no longer compete in this far more competitive, computerized, fast changing and decentralized world where individual business decisions come weekly, if not daily. Now, with this new third wave, the dominant symbols of the world are computers, computer software, the Worldwide Web and instantaneous communication by cellular phone, E-mail and fax. The two companies that best typify this era might be Microsoft and Wal-Mart. Now, the wealthiest person in the world is not Carnegie or Rockefeller. It is Bill Gates and Sam Walton. I recite this so that we have an overall understanding of these changes, how long they took, and when they began. Throughout all three of these waves, agriculture has been, and still continues to be, a dominant industry in the world.

Land Grant Universities

What about the role of the land grant universities? They came out of the Morill Act in 1862—developed in the era of the industrial revolution. The mandate of the land grants was, and I think still is, to train the sons and daughters of the common people of the United States of America. We have to keep in mind that prior to 1862, higher education in America was dominated by private religious colleges and a few state universities that appealed to the rich and the well born. Consequently, prior to 1862, there were no colleges and universities that were designed specifically to train the sons and daughters of working class America. That, my friends, is the fundamental reason why Abraham Lincoln and the people who controlled the Congress in 1862 came up with the land grant legislation referred to as the Morill Act.

There are too many land grant colleges and universities in America today that are getting away from their mission and trying to replicate the values and the research proclivities of private elite colleges and some elite state universities. I think that is a huge mistake. At places like Kansas State, I can assure you, we are proud of our heritage of being a land grant university. We are also proud of the whole structure in our university that represents agriculture, whether it is the extension service, the experiment station or the teaching mission. We believe that teaching is fundamental. It is our first priority at Kansas State and in our College of Agriculture. The mission of the land grant universities is still to educate the plain people of America and to train people for agriculture and agribusiness.

A further sharpening of the mission came with the Hatch Act of 1887 and the Smith Lever Act of 1914. Having been at Kansas State for over 10 years now, I know how well the Hatch Act has worked for us. As you talk to farmers and ranchers in the State of Kansas today, they will tell you how pleased they are with breakthrough research, for example, in wheat. Our internationally-renowned wheat specialists and geneticists have come up with, over and over again, new wheat hybrids. We had a record wheat crop in Kansas this year and two of the most important varieties were wheat hybrids developed at Kansas State University.

Certainly, the extension service that came out of the Smith Lever Act of 1914 has been of fundamental importance to Kansas State from then up to the present. I talk to farmers and ranchers from all over Kansas constantly and, by and large, the extension service and Kansas State are viewed as crucial to the quality of life and economic well-being of the entire state.

We cannot forget that, in the beginning, the Morill Act had as one of our primary functions to emphasize arts and sciences or a liberal arts education. That is still fundamental to a place like Kansas State in 1997.

The land grant universities of the 20th Century and the post-World War II era have been extraordinarily successful—I believe brilliantly successful. America's land grant system is the envy of the world. The rest of the world looks upon America and the great success that we have with land grant universities as the model—as the paradigm—for the world. If you were to talk to people in the liberated states of Eastern Europe or the 14 or 15 Republics of the former USSR, they can only wish they had the tradition, experience and structures of land grant universities. As an example, a delegation was here from North Korea visiting in the state of Georgia, and they were looking at the poultry farms. They were stunned at the efficiency and productivity of these operations.

The Success of American Agriculture

How successful did American agriculture become after 1862? By 1900, American agriculture was clearly the most dominant agricultural system in the entire world. Already, by the 1890s and the first decade of the 20th Century, American farmers and ranchers were helping to feed the world at very affordable prices. In the post-World War II period, Americans farmers clearly led the world in the production of basic commodities and food products. There is no country on the face of the earth that has such a diversified and magnificent agriculture as the United States of America.

We are now in the third wave of what they call the era of service, information and high technology. Agriculture and the food system still comprise 17 to 19 percent of the working force in America and it generates one-fifth of the Gross National Product.

In 1935-36, the number of farmers and ranchers reached an all-time high of about 6.8 to 7 million. Today, there are fewer than two million farmers. In terms of commercial farmers that gross over $500,000 a year, there are less than 100,000. Whether that is good or bad, I will leave up to you to decide. But, I want to remind you that a prosperous agriculture is good for the American economy.

In 1950, the American consumer spent about 25 cents out of every dollar for food. By 1980, it was 14 cents and, today it is about 10 cents. It is 16 cents in France, 30 cents in Russia and about 50 cents in the developing countries. But, you have to keep this in mind—the cost to consumers in France does not take into consideration the huge subsidies from the French government to the French farmers. What about our subsidies that have come out of the New Deal with price support and loan programs? Well, we have spent less on farm programs in our entire history than we did to bail out failed Savings and Loans in the financial crisis of 1980s.

Importance of Agricultural Research and Extension

Far more money is spent by the United States government on biomedical research than on agricultural research. Yet, the return on investment when monies come into agricultural research are huge. Let me just give you one example at Kansas State. In terms of economic development we generate about $1.3 billion a year. We receive about a $140 million per year in pure state tax dollars from state appropriations. That is for all our functions. That is to educate our students, pay our faculty and all of the rest. So, is it a good deal? It is a *very* good deal and we try to explain this to legislators every day and every week. If you want to invest in a solid operation, invest in a place like Kansas State where we not only educate young people, but we, on top of that, generate $1.3 billion for the state's economy.

As we go into this new world of high technology (actually, we entered it perhaps 45 years ago), the methods and activities of the extension service and experiment station are still important. You know we can talk all we want to about how fancy the world has become, but agriculture is still going to play a critical role in the future of America and in the future of the world. I do not care if you are a football coach or president of the United States, you cannot forget the basics. The "basics," in this case, is the food and fiber system of America. Will the traditional techniques of the extension service, i.e., demonstrations so that farmers and families can learn by observing, go out of fashion or go out of style? Research is obviously going to continue to be important. We have to continue to develop better wheat hybrids, lower beef fat, and child development skills, for example. Extension and research will continue to play a very, very important role in the United States.

At Kansas State, what we are trying to do is to bring the agricultural experiment station and the cooperative extension service together. We have one dean and director, and three associate directors for research, extension and resident instruction.

They are working very well together. At Kansas State, we have the people in place. We have performed the changes that allow research and extension to be "hand and glove" and it is working very well. I know a fine line exists between extension and applied research. Most will have to have the skills to do both interchangeably.

If we strengthen our ties to the people, if we work on their problems, if we provide them with cutting edge solutions, and if we provide their sons and daughters with a valuable education, we will prosper. Our functions (teaching, research and extension), especially in agriculture, human ecology and engineering, are and will continue to be, in high demand in the next century. But, we must adapt our institutions to the 21st Century.

In Kansas, we have 105 counties—many of which are struggling to hire and keep capable county agents. Many people argue we do not need county agents anymore. I do not agree with that. Our local contacts, and I know many of these county agents personally, are invaluable to us and to the local people. They are still crucial. So, we have to find ways to hire and keep the best.

In 1996, we held public policy educational forums on the future structure of the Kansas extension service. The leadership of all those counties told us they want local contact. They want local influence. But, they also want access to the latest cutting edge information. The suggestion that came out of the forums was to keep one agent in every county, and then surround the county agents with specialized agents who will work with the county agents. The citizen has the local contact, the research and the educated expertise of the specialized agents. The specialized agents would serve 6, 8 or 10 counties.

I know I am speaking to public policy education specialists from across the country with appointments in agriculture and human ecology. I know of your tremendous record in using the alternative consequences approach to education on controversial issues. I am well aware of the work of the Food and Agriculture Policy Research Institute out of Iowa State and the University of Missouri, the Agricultural and Food Policy Center out of Texas A&M University and the work that our own agricultural economics department did on the 1996 farm bill.

But, we know that there are many, many future issues to work on: food safety, environmental issues, welfare reform, juvenile justice, international trade expansion and the viability of rural communities and families, just to name a few. If we tackle the issues of the 21st Century like we have in the 20th Century, I am very optimistic that what we have worked with over the past many, many years will continue to be of great importance and central to the 21st Century.

Kansas State University in the 21st Century

Let me just take a few minutes to talk about what were doing at Kansas State to reinvent our operations for the 21st Century. We are calling it Vision 20/20. What we are trying to do is to reinvent the entire curriculum—that is, to have a curriculum that is relevant to the students. It should not necessarily be what faculty members want to teach. Rather, it is faculty members teaching what the students need to be successful in the 21st Century. We are looking at all faculty time and talent. After all, 90 percent of the academic budget goes directly to pay for faculty. We have to make sure that faculty are doing what they can do best. Quite frankly, most of us are still on the old industrial model, where you go across the entire university from agriculture to arts and sciences, and people have so many similar hours of teaching, research and service. What we are trying to do is develop an individual base set of evaluations at Kansas State where, instead of being compared to others in the department, they work with their department head to articulate their goals for the next year. They are then rated and evaluated on whether they have met those goals. So, what we are trying to do is to figure out who does the best research and have them do more of it, and who are the best teachers and have them do more of it. Instead of the old model of everybody doing exactly the same, we are trying to set up variations on the theme, and I think we are making a lot of progress.

We have come up with a policy of "two strikes and you are out" at Kansas State. We all know how important tenure is, and it is crucial. But, we got our faculty senate to vote (70 percent in favor) that if you have two years of failure to meet expectations, termination proceedings can begin. We are probably the only university in America that has developed that kind of consensus with our faculty.

We are able to get to the bottom of what each department and college ought to do because we are using the new accounting system called "activity-based costing." A dean or department head can determine where the money is going and if it is not necessarily good for the department or college any more, we will change it. For example, we have two departments that do similar functions, but one is only generating $250,000 in actual funding and the other is generating $7 million. Some positions ought to go from Department A to Department B. Furthermore, activity-based costing allows us to incorporate technology and distance learning into the classroom.

The last thing I want to talk about are the accomplishments of our students. Virtually all of our students come from the State of Kansas. We actually have open admissions—anyone who graduates from high school in Kansas can get in to Kansas State—but, that will change in the next four years. We are getting the sons and daughters of common folk.

Just to show you how outstanding our faculty and students are, since I started at Kansas State in 1986, we have had five Rhodes scholars. We are third in the

country in public universities in the number of Rhodes scholars. We have had seven Marshall scholars since 1990. We are third in America in the number of Marshall scholarships. In the spring of 1997, we had two more Truman scholars—for a total of 21. We are first in the country of all land grant and state universities in Truman scholarships. We had three Goldwater scholars this Spring—now, we are up to 31 of those. We are first in the country in Goldwater scholars. So, just using those four prestigious scholarships, since 1986, we have had 57 Rhodes, Marshall, Truman and Goldwater scholars. That is more than any other university in the PAC 10, Big 10, Big 12, ACC, SEC, Big East, and more than any other state university or land grant university in America.

Over half of these young people who are winning these scholarships are from farms and ranches or from a little town in Kansas. I would say that 98 percent of our scholarship winners are from Kansas. When our faculty gets done with them, they can go into the Rhodes or Marshall competition and go eyeball-to-eyeball with students from Harvard, Princeton and MIT, and come out winning. If you throw all the private universities in, Kansas State is fifth in prestigious scholarships. Only Harvard, Stanford, Princeton and MIT have had more scholarships than Kansas State. I use this as an example of the important training many of our Kansas State students had in 4-H and Future Farmers of America. So, I dare say, at Kansas State we are getting the job done, and we are a great investment for the state. We not only educate the students and bring them to an entirely new level, but we are doing an excellent job in terms of working with farmers, ranchers and the rural communities of Kansas.

Reference

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A Reality Check

Bud Webb
South Carolina General Assembly

Let me give you a little bit of a reality check today. Before I do that, let me tell you where I am coming from, because some of you may walk out of here after the meeting and say, "Thank God I do not live in South Carolina or work at Clemson University under those kind of conditions." We may be a little bit different, but I wager you that it is not that much different in South Carolina than in your state.

So, where am I coming from? I spent over twenty years in an undergraduate teaching-research position. I have written my share of publications. I have been the publish-or-perish route, so I understand that part of your responsibility. I spent about eight years as a department head. I spent about eleven years as dean and director of the cooperative extension service and I spent about fifteen months as vice president not only for agriculture, but for university research throughout the university. So, I think I have a pretty firm footing and background in the land grant system. I have some very strong opinions.

Now, I top that off with one year in the legislature. Obviously, after having been there for one year, one still knows all of the answers. When I go back next year, I might not be as smart. Let me start by telling you, at least for those people from Clemson and those people from South Carolina, how you are viewed in general by the legislature.

First of all, you are viewed as the most overpaid and underworked group of individuals in the world. No questions asked. We talk about twelve hours of teaching per semester as being a full-time job. Our Provost came up with some numbers that the average faculty member at Clemson taught an average of seven or eight hours a semester. Members of the legislature take that literally. They think that is how much you are working. I do not know how you overcome that, but that is the perception; thus, that is the reality. Let me give you a specific example. We have a representative who has appointed himself to be the guardian angel for higher education in South Carolina. When we debated just the higher education portion of the state budget this year, he put 43 amendments on the desk--at least one dealing with each institution of the state. We have 33 state-supported institutions in South Carolina. After some six or eight amendments were soundly defeated, thank God he withdrew the rest so that we didn't spend the entire day there.

But, let me tell you what he said about Clemson. He put an overhead up on the screen that said Clemson had 450 faculty who did not teach a single course. He said we could solve all of our problems if we would require half of all of those people to

teach just two courses and be in the classroom six or seven hours a week. Teach two courses, and we could fire the other half of them, and everything would be okay. I never was able to confirm how he got his numbers, but he obviously included all of our county faculty. He included all of our faculty in research and education centers around the state. He had absolutely no concept of research, or scholarship as you or I would view it. But, that is what he said on the floor of the House about Clemson University. I told him the only saving grace for Clemson was what he said about our biggest competitor, which is the University of South Carolina (USC). When he got to USC and this is a direct quote he said, "It is undoubtedly the most grossly mismanaged institution in this state."

I was walking across campus last week and I ran into one of my old friends on the faculty of the Clemson College of Engineering. He asked me how things were going in Columbia and I told him very well now that we are not in session. And I said, "How are things going on campus?" He hemmed and hawed a little bit so I said, "Well, I guess that part of your problem is that you are still messing around doing research and working with graduate students." He looked at me sort of funny. It was just like I had slapped him in the face, that I could question him working with graduate students and doing research. I said, "You must understand that the perception in Columbia is that if faculty would quit messing around and writing research proposals and trying to get external dollars, and quit messing around with graduate students, then you could teach all of those undergraduate courses and everything would be fine."

That is reality, folks. Many of my colleagues in the legislature do not appreciate scholarship, they do not understand why you and your counterparts need to be involved in research and dealing with grad students. They do not understand that you do not have a good undergraduate teaching program unless you have faculty who are active in research. I could go on and on.

I am going to talk about tenure. A retired county director who is in the legislature introduced a bill year before last to abolish tenure in South Carolina. Why is tenure an issue in our legislature and, I would guess, in yours? You must understand that the makeup of legislatures tends to be different now from what it used to be. The majority profession in the South Carolina House of Representatives is business people, no longer lawyers. Lawyers are still second. But they are business people, and they do not understand why you need to give someone a lifetime contract or a thirty-year contract and that almost nothing can happen to void that contract.

My argument to you and my challenge to you would be that you and I are to blame for how tenure is viewed by members in the legislature in my state and in your state. Most of you are not as old as I am. I will not go back to my 42 years I have been involved with land grants but let us go back 25 years. *I honestly do not remember an instance where tenure has been an issue relative to academic freedom.* How do we

use tenure? Universities have used tenure to protect nonproductivity and misconduct. That is the only way we have used it. So, if I could leave you with a word about tenure, it would be "be careful how you use it."

Our mission is also not understood by most people in the legislature. You tend to think in terms of educating students rather than training students. Legislators do not understand that our objective in a land grant university is let students learn how to learn and to prepare them for a lifetime learning process. Why is it viewed that way in South Carolina? We have one of the strongest technical education systems in the region. There are sixteen technical schools that do a fantastic job. They contribute significantly to the economic growth in our state. If you are an industry coming into South Carolina, the state will fund one of those tech schools to offer special schools to train your workforce for whatever training they need to move into your new plant or your expansion. Legislators see new constituents being brought in and provided very specific benefits to new industry that they helped recruit to their hometown. That is a direct link for them. They see the immediate payoff for that, but they do not see the long-term benefits of teaching students how to learn and be prepared for lifelong learning. I do not know how you deal with that, but it is a reality that we have to deal with. There certainly is a place for technical education and training a new work force, but what you do at a land grant university is also very important.

I want to talk about what we need to do and what the land grants need to do. This is the "gospel according to Bud Webb" and please understand that it is my personal view of what the land grant university in the 21st Century must do to be successful. First, we have to have an expanded outreach. I do not think there is any question about that. The entire university must be involved in some kind of outreach program. I do not know how many of you have ever attended one of the Council on Outreach and Technology Transfer (COTT) meetings. COTT was formed with the National Association of State Universities and Land Grant Colleges (NASULGC). I went the first time assuming that it would be dominated by land grants. Much to my surprise it was not, and is not, and will not be. If the land grants stay wedded to agriculture and turn engineering, business, health care, lifelong learning and all of those other things over to the other institutions, they will go down the tubes.

People outside of agriculture look at the success of the land grant system. My oversimplification is that it is a model that takes the resources of expertise on campus and transfers technology to masses through a network of professionals around the state. Business people will admit and grant to you that the model has been extremely successful. We are the best fed, lowest cost, most diverse educational system. Anyway you want to measure agriculture, we are right up at the top, as Dr. Wefald said. No question about that. But, people in South Carolina asked me when I was director, and now ask current Clemson administrators, if that model was so successful for agriculture, why don't you apply that same model to the entire state? Why don't you respond to the small businessman, the entrepreneur with your ideas?

In South Carolina, you can count on one hand the number of people out of the 124 members of the House who have any direct link with agriculture. The university cannot survive politically in that environment and write everyone else off. Agriculture and the cooperative extension service need to be the gate keeper. They need to be the backbone of the total outreach of the university. But, unless we can get our counterparts across the university involved, we will default to all of those non-land grant state universities--and they will clean our plow. It is happening in South Carolina today. For the University of South Carolina, there is no area that is off limits. USC recently hired a new vice president for research with the specific objective of achieving Research One institution status. As I said, there are no areas that are off limits to them. So, we can sit back in our traditional model or we can be out there on the cutting edge.

I am not saying this just because I am talking to you as policy educators, but I think there is no question that the land grant university should take the lead in public policy education in the future. There is probably no area where your elected officials need and want assistance more than they do in the public policy area. Some of you may serve on boards or other places where you feel a sense of responsibility. That can be overwhelming. Serving in the House of Representatives for the State of South Carolina has been an overwhelming responsibility for me. I am in awe of the General Assembly's responsibilities. We sit there and talk about cutting taxes or raising taxes--decisions that impact almost every citizen in the state of South Carolina. As a rule, members of the legislature need and want assistance in setting public policy. Perhaps I use a different definition of public policy education. I am talking about public policy with a very broad scope.

What are some of the issues that we are going to have to handle that people in public policy could help us with? One of the major issues facing South Carolina at the present time is how do we provide adequate infrastructure to continue the economic growth and development of this state? There are some real public policy issues in that question. Do we toll existing interstates? Do we toll the new bridge? We recently authorized the state to borrow the money to build a new bridge across the Cooper River just north of Charleston. We have two projects in South Carolina that are going to cost almost a billion dollars--a billion dollars! These projects are the Conway bypass to get people in and out of Myrtle Beach, and the new Cooper River Bridge. How do we finance that? Our governor has said there will be no increase in taxes in any way, shape, form or fashion. We have a majority of the legislature that realizes that we really ought to go ahead and bite the bullet and put some additional tax on gasoline in South Carolina to pay for some of this infrastructure instead of borrowing a billion dollars. But, 70 percent of them signed a pledge last year that if elected, they would not vote for any tax increase during their term of office. *Now, that does not say that we will not put on fees and assessments and all of that!* Those are issues that we are going to have to deal with--that we need help with.

One of the major issues in South Carolina that the legislature is going to have to face in the next few years is the issue of gambling. The thing that is on the front burner right now is video poker. We had some counties that voted to ban video poker machines. The Supreme Court overruled the ban so we went back this year and tried to fix it. Those counties could ban video poker machines again effective November 1, but an injunction has been filed and so as of November 1, every county will still have video poker machines. I am not going to talk about gambling from a moral standpoint. That is another issue. You cannot legislate morality, people that want to gamble are going to find a way to gamble. It may be on a parlay card or football, or it may be going across the river to Georgia to play the lottery. So, I am leaving the moral aspect completely out of it, and I am looking at it strictly from an economic standpoint.

I personally am opposed to video poker. From what I have been told and the evidence I have seen, it is undoubtedly one of the most addictive forms of gambling in the world. We had a woman who left her ten-day-old baby locked up in her car in Jasper County while she played a video poker machine for seven hours. When she came out, the baby was dead. Now, that is addiction, folks! But, I am not talking about that. There are three issues related to gambling that we have to deal with. One is the lottery--we do not have one. Georgia has one and lots of other states have one. The others are video poker machines and parimutuel betting. We have some people who would come to South Carolina in a skinny minute and build a thoroughbred race track down in the Grand Strand area around Myrtle Beach if we would pass parimutuel betting. There are a lot of things appealing about that. If we build it in the Myrtle Beach area, probably 80 to 90 percent of the funds that will be bet there are going to be from people outside of the state--tourists coming in. *It is easier to pick a tourist than it is to pick cotton!* This is an example of one of the areas where we need some good policy work. I do not believe we have a data base that tells us the long-term impact of a lottery. A number of those states that have lotteries have lived high on the hog for the first few years because of all this money coming in, but what happens to revenues three to four years down the road? Those dollars that are going to the lottery do not go into the general economy and turn over. People are not buying tires and washing machines and all of those kinds of things with it. So, a good policy study on what the long-term impact of a lottery is would be very beneficial to many of us.

Property rights is another crucial issue. We passed a bill this year that dealt with personal property rights--takings legislation. How do we protect an individual's personal property rights? There are some really serious policy questions within that issue. So, if you want to get on a real first name basis with your legislators and really make a contribution to your state, get involved with those people who are setting the policy with your policy activities and give them guidance and assistance.

Thank you for the opportunity to be with you. I have not talked very much about where I think a land grant university needs to go in the future. But, I will re-emphasize two points. One is the need to get the entire university involved in an outreach program, however you define it or whatever you want to call it. The needs are there. You must respond to business, to manufacturing and to engineering--at least, in a state like South Carolina. There is one area where you could really make a contribution to the future well-being of your state and that is to provide some public policy information and education to the members of your legislature.

Land Grant Colleges and Universities of the Future

Michael J. Phillips
National Research Council

Introduction

Last year, the U.S. Congress passed, and the president signed into law, the most sweeping changes in agricultural policy since the 1930s. The 1996 farm bill and its Freedom to Farm provisions position the U.S. food and agricultural sector to capture the potential growth in world markets. In the future, the ability of this industry to capitalize on trade opportunities will depend less on subsidization by the government and more on gains in efficiency and productivity--which can only be achieved if this country has a strong agricultural research base. To be competitive in this new era requires major breakthroughs in science, and this mandates a strong public research base to provide the fundamental science underlying these advances. Given the long lead time necessary from basic research to development of a new technology (about 7-10 years), that effort must begin now. The National Research Council (NRC), in its previous reports on agricultural research, has strongly recommended the need for a competitive grants program. This concept has been adopted by USDA and codified by Congress in the 1990 farm bill as the National Research Initiative (NRI). However, funding for the NRI has fallen drastically short of the $500 million annually envisioned for this program and authorized by Congress. Without aggressive expansion in funding, a significant portion of the benefits of new science and technology will go unrealized and so, in turn, will the promise of a competitive agricultural industry envisioned in the 1996 farm bill.

Beyond fully funding this fundamental program is the importance of ensuring the conduct and quality of agricultural education and research and thus, the land grant system. Land grant colleges of agriculture (LGCAs), initiated by the Morrill Act in 1862, historically have been entrusted with these functions and supported by public funds to carry them out. However, many questions have been raised as to whether LGCAs have positioned themselves to meet the challenges of the 21st Century.

The NRC, under guidance provided by its Board on Agriculture, undertook a study of the land grant system as a result of two main observations. First, the client base for food and agricultural research and education has changed dramatically as the nation's economy has developed and its population has shifted to cities and suburbs, and the policy issues have shifted accordingly. Second, the land grant system is defined not only by its distinctive heritage, but also by a set of institutional arrangements unique within higher education in the United States. These arrangements

have changed little since the system's early years despite major changes in the food and agricultural system. The institutional arrangements include:

- A federally legislated mandate to embrace a three-part mission of making education accessible to students of ordinary means, conducting scientific research to underpin teaching programs, and extending research findings to off-campus users to ensure that science serves people.

- A federal-state partnership that produced at least one land grant college in every state and territory.

- A federal funding mechanism that distributes research funds and extension funds to LGCAs based on the state or territory's share of total farm and rural population.

- A network of separate--but not equally well supported--historically Black land grant colleges.

In addition to changes in agriculture and its role in society and the economy, new developments in science and science policy and the federal funding environment motivated the NRC study of, and recommendations for, land grant universities. The study was sponsored by funds provided to the NRC mainly from the W.K. Kellogg Foundation and, to a lesser extent, by the U.S. Department of Agriculture.

The NRC Committee Process

NRC studies are conducted by volunteers with relevant experience and expertise. Twenty-one individuals were convened under the oversight of the Board on Agriculture. These people were balanced for age, gender and ethnicity; geographic location; and disciplinary expertise. They were participants in the land grant system--administrators and faculty with teaching, research, and extension expertise--as well as representatives of public interest groups, state government, agribusiness and the nonagricultural science community.

The study was divided into three stages. First, information was collected, reviewed and assessed on the LGCAs and their operating environment, and expert opinions were solicited from observers of, and participants in, the land grant system. The NRC published this historical review and collection of public data in *Colleges of Agriculture at the Land Grant Universities: A Profile*.

During the second stage of the study, public forums were held at land grant colleges. The forums were important means to garner public input on the relationship between college activities and public needs and priorities. In the third phase,

information was synthesized and integrated from the first two phases and a consensus report, *Colleges of Agriculture at Land Grant Universities: Public Service and Public Policy*, was published by the NRC in 1996.

Conclusions and Selected Recommendations

The consensus report concluded that a national science and education infrastructure that underpins continued advances in the food and agricultural system, and federal support of that system, remains squarely in the national interest. It also concluded that although the land grant system has served the nation well, there is need for change in four principle areas:

- The LGCA system must increase its relevance to contemporary food and agricultural system issues and concerns. It must also continue to develop programs that include a wider array of students, faculty and clientele of diverse backgrounds and perspectives.

- The system must organize its programs and projects more efficiently and more in keeping with regional and multistate requirements of many modern food and agricultural system problems. There is a need for a new geography for the land grant system.

- The system must reinvigorate its commitment to the linkages among teaching, research and extension in order to fulfill its mandate of conducting science in service of society.

- The system must enhance its accountability to the public and its reputation for quality in the science community.

Twenty recommendations were developed in support of these key themes. Several address the teaching, research or extension components individually, and other recommendations cut across these components. A significant number recommend refinements in federal policy as a means of reorienting incentives and signals in the LGCA system. Several of these recommend changes in federal policy. The recommendations are aggregated below:

Involving the Stakeholders. LGCAs have a responsibility, based on their philosophical roots and legislative mandate, to be relevant and accessible to the general public and particularly to citizens of ordinary means. However, many of today's food and agricultural system beneficiaries, such as urban and suburban residents and environmentalists, have little knowledge of, or connection to, many of the LGCAs. Enhancing these connections does not mean abandoning farmers. It

means building a broad constituency for programs that respond to and enhance complementarity among the nation's multiple goals for its food and agricultural system. Enhancing connections to both farm and nonfarm residents is an outcome crucial to extending the colleges' relevance into the 21st Century.

In order to enhance these connections, the report's first recommendation is that in setting program priorities that guide resource allocation, LGCAs should garner effective input from a wide variety of stakeholders. In fact, receipt of USDA-administered funds--including those allocated by formula, special grants and competitive grants--should be contingent upon the demonstration of such input.

Creating a New Geography. Seventy-six institutions in 50 states, six territories, and the District of Columbia comprise the 1862 land grants and the historically Black or 1890 land grants. If the land grant system is to adopt a research and education agenda that responds to the priorities of consumers and the many specialized needs of diverse producer groups, then it must realize organizational efficiencies by reducing duplication and strengthening multi-state and multi-institutional partnerships that build upon the specializations of individual institutions.

In addition, the nature of contemporary food and agricultural system issues calls for regional or multi-institutional efforts. Many natural resource and environmental issues, such as watershed management, cross state lines. Many consumer issues, such as nutrition and disease, know no political boundaries. In fact, they may be endemic to similar populations located in spatially separated parts of the country. Even within the farm sector, production issues are often pertinent to producers in a region made up of all or parts of several states. In recognition of the importance of regional or other multi-state and multi-institutional approaches, coupled with the need for federal funds to provide incentives for such partnerships, the report recommends that significant shares (25 percent or more) of USDA-administered funds for teaching, research and extension should be used to provide incentives for regional centers, consortia, programs and projects that effectively integrate and mobilize multi-state and multi-institutional resources.

Integrating Teaching, Research and Extension. LGCA administrations, faculty appointments, budgets, and federal land grant legislation are structured along the lines of teaching, research and extension. Although it is the historical commitment to its three-part mission that has distinguished the LGCAs, the separate administrative and funding structures too often hinder integration of the three functions and their programs. The different statuses implicitly, if not explicitly, assigned to each function by the university community contribute to the separateness.

The integration of teaching, research and extension is valued for several reasons. Research-extension linkages, when they work well, spawn a two-way flow of insights and information that enhances the relevancy of research and uses research findings where they are most valuable to the public. Strong research-extension linkages

help ensure that outreach programs reflect the most up-to-date scientific knowledge. The integration of teaching, research and extension is of special value to students because it offers an academic experience that involves the students in both the process of scientific discovery and public service. To put a renewed emphasis on an integrated tripartite mission, the report recommends that federal formula funds for research and extension be combined into a single allocation. Further, 50 percent of the combined funds should be used to support programs, projects and activities that explicitly integrate teaching, research and extension or, alternatively, the work of multiple disciplines.

Enhancing Accountability to the Public. It is recognized that USDA-administered research funding differs from other research and development funding in the much smaller percentage allocated to individuals and projects on the basis of merit and competition. This difference is because of the relatively large share of agricultural research conducted intramurally by USDA, and the use of formula funds and congressionally-designated grants in allocating extramural funds to institutions. Arguments can be made for and against both formula-based funding and competitive grants. However, some of the early reasons for formula funding of state experiment stations, such as the need to draw each state into agricultural research and the site-specific nature of agricultural research, carry less weight today. Presently, most states provide far more financial support than is required to match federal dollars; and many types of food and agricultural research, such as nutrition, food safety and biotechnology, have little or no location specificity. Other arguments for formula funds, such as the support they provide for structural linkages between research and extension that respond to local, state and regional needs, and for certain applied research projects that require long-term continuity, remain quite compelling.

Despite its uniqueness, agricultural research needs to enhance quality, accountability and equity through greater use of competitive grants. The report reaffirms previous NRC reports and recommends that the federal partner should increase its use of competitive grants to fund projects and individuals on the basis of merit as determined by peer review. Greater use of competitive grants in relation to formula funding and Congressional earmarks will enhance quality and accountability, and lessen the perception that experiment station researchers are insulated from competition with the rest of the research community.

The federal government should increase competitive funding of food and agriculture projects. The funding level for competitive grants should be no less than the $500 million authorized by Congress for the National Research Initiative in Agriculture, Food and the Environment. Recognizing fiscal constraints, options for increasing the share of federal support for competitively-awarded peer-reviewed research include:

- Directing funds to research from other USDA budget categories, particularly as a means of reinvesting savings on agricultural subsidies.

- Transferring to competitive grants programs a portion of the funds distributed to experiment stations by formula and special grants.

- Drawing on USDA intramural noncompetitive research funding.

A two-tier review similar to that of the National Institutes of Health should be used at the federal level to guarantee that public benefits, as well as scientific merit, guide the selection of research proposals. To those who would criticize a reallocation of funds from formula and intramural funding, it needs to be pointed out that the scientists affected by such a reallocation can apply to the NRI for funding since all scientists are eligible for these funds.

Nonetheless, a continued role exists for formula funding, particularly in supporting linked teaching, research and extension. The report recommends, however, that new formulas be designed and implemented by which food and agricultural research and extension funds are allocated within the land grant system. The current formulas are outdated in relation to modern food and agricultural constituencies. These formulas were generated in an era when a much higher percentage of the nation's population was rural and farm-based, and the nation's agricultural interests were dominated by concerns with domestic crop production and food security. Today, many issues of concern to the U.S. public, such as diet and health, families and youth at risk, and food safety are not specific to farm production regions, suggesting the need to rethink formulas for both research and extension. In revising the formulas, consideration should be given to variables such as states' proportionate contributions to total population, relative poverty rates, or shares of cash receipts from farm and food marketings as appropriate reflections of the LGCA system's broadened contemporary customer base.

Federal legislation requires that state governments match federal formula-based contributions to research conducted at experiment stations located at 1862 institutions and, as noted earlier, states contribute far more than their matching requirements. However, no such requirement applies to federal contributions to research based at the 1890 institutions. Aside from the obvious inequity among institutions within the land grant system, this discrepancy in federal funding requirements also means that the clientele of the 1890 institutions are less likely to receive adequate research and education attention. The 1890s have been uniquely focused on issues, problems and needs of African Ame.icans and other ethnic minority groups, small-scale and limited resource farmers, and low-income rural and urban families. Thus, the report recommends that the federal government require that states match federal formula funds going to the historically Black 1890-institutions in the same manner as is

required for the 1862 institutions. This recommendation is meant to enhance the vital role of the 1890s as providers of access to research and education to under-represented segments of our society.

Looking to the Future

The land-grant system has served the nation well, but changes are needed that reflect modern realities, challenges and opportunities. The system must increase its relevance to contemporary food and agricultural system issues and concerns; reinvigorate its commitment to teaching, research and public service; organize its programs and projects more efficiently and more in keeping with regional and multi-state requirements of many food and agriculture system problems; and enhance its accountability to the public.

Their historical commitment to public service distinguishes the LGCAs. The tripartite tradition of teaching, research and extension at land grant colleges is a unique institutional base on which to erect the structure of knowledge that can assure a competitively, socially and ecologically sustainable food and agricultural system. It is that unique base of support adapted for the challenges of the 21st Century that will continue to make this segment of our nation's research system as vital and important as its historical past.

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Vulnerability of the Land Grant Colleges of Agriculture: A Public Affairs Perspective

Allen Rosenfeld
M&R Strategic Services

Introduction

I would like to commend and thank the conference organizers for allowing an "outsider" like myself to speak to you today about the National Research Council (NRC) report on the future of the land grant colleges of agriculture (LGCAs). Despite my "outsider" credentials, I had the pleasure of serving as a member of that NRC study committee while working at Public Voice for Food and Health Policy; a national, nonprofit consumer group.

Since then, I have moved to my current position at M&R Strategic Services; a for-profit public affairs and strategy consulting group that focuses on consumer, public health and environmental issues. At M&R, I manage public affairs campaigns on food and agricultural policy issues, with an emphasis on commodity program reform. Today, in keeping with my current position, I would like to take off my economist's and consumer advocate's hats and focus my remarks on the future of the LGCAs from a political and public affairs perspective.

Before beginning my substantive remarks, I want to offer an important disclaimer. Although I was a member of the NRC's land grant study committee, today-- I speak neither for the NRC nor for that committee. Today's analysis, observations and conclusions are strictly my own. As you are no doubt aware, the NRC report was the result of a consensus process. Not surprisingly, individual members of the committee often had personal views that did not precisely equate with those expressed in the report.

The main objective of my presentation today is to provide a political perspective on the NRC report and the challenge it issues to federal policy makers and the LGCA system. I do not see my task today as providing a defense of each and every controversial recommendation of the NRC report. As you will see, I believe that we may well have to move beyond merely debating the pros and cons. Nonetheless, there are a few controversies generated by the recommendations that are particularly relevant to the presentation.

The NRC report on the future of the LGCAs means different things to different people. I have heard this audience characterized as being on the cutting edge of LGCA reform questions. However, for those in the audience who find the NRC report

quite problematic and believe that only minor tinkering with the status quo is all that is needed--in short, if it ain't broke, don't fix it--I hope that my remarks can stimulate some rethinking and serve as the beginning of a wake up call.

The Uniqueness of the NRC Report and Its Implied Political Challenge

The topic covered by the NRC report is hardly ground-breaking. After all, for those who have been involved in LGCA politics or for those who are serious students of the system, debates over the future direction of the LGCAs is nothing new. For at least the past three decades, there has been no shortage of public debate over controversial issues addressed by the report, such as formula funding. Indeed, within the last five years, there has been a plethora of reports, meetings, strategic planning sessions and futuring exercises dedicated to tackling the kinds of issues addressed in the NRC report.

What is genuinely new about the report, however, is the unique urgency of its mandate and the political challenge implied by its conclusions and recommendations. For those who want to see it, the message between the lines of the report is that business as usual will no longer be acceptable without putting the entire edifice in jeopardy. Something has to give or the system, as we know it, may not survive. If there was a consensus element within the NRC committee, it was this growing sense of urgency resulting from our three years of research and deliberations.

In many respects, I see the report as a long-overdue warning that the decades-old public policy debates over LGCAs issues have produced very little substantive change in the system and that further delay could have unforeseen negative consequences. In this sense, the report's recommendations are not simply just one among many sets of ideas to be dusted off the shelf for the next seminar, colloquium or public policy education conference. Rather, they could be put to better use as a possible road map for navigating some of the political rapids that are sweeping the LGCAs toward a new public policy crossroads.

The Shifting Political Landscape Faced by the LGCAs

So, why the new sense of urgency? Most importantly, debates about the performance and future of the LGCAs, which used to be limited to a small, select group of players, are fast becoming visible and very *public* issues. The days of the insulated insiders' game dominated by the agriculture committees, the agricultural appropriators, USDA, LGCA administrators and farm sector lobbyists are quickly coming to a close.

In large measure, this emerging sea change in the political climate faced by the LGCAs has been brought about by a unique conjuncture of political forces.

- A dwindling farm population--farm families now account for only 1 percent of the U.S. population and 10 percent of rural America--means a reduction in influence in budget and appropriations decisions at the state and federal levels.

- Nontraditional players, such as consumer, public health and environmental groups are playing an increasingly stronger role in food and agricultural policy making.

- The federal agricultural budget has recently become a less-than-zero-sum game, causing previous partners in the traditional legislative log-rolling scheme to be transformed into potential adversaries in a legislative free-for-all.

- While there is still substantial sympathy for family farmers, production agriculture, as a whole, does not have a strong public image and is often publicly associated with health and environmental problems.

- As tuition costs soar and public expectations grow, universities, as a whole, and the tenure system, in particular, are being subjected to increasing public scrutiny.

These shifts in political forces are going to make it extremely difficult to sustain a defense of the status quo regarding issues such as formula funding, stakeholder relationships, allocation of resources among LGCA program and problem areas, intra-regional duplication of effort, and the discontinuity between research and extension. As some of the eye-opening findings of the NRC committee's research suggest, business-as-usual for the LGCAs might be hard to continuously defend even in the best of political climates. At a minimum, it was difficult not to conclude that the system faces serious crises of relevancy and credibility.

Three observations from the NRC study reinforce this concern. First, federal taxpayer dollars were being used to conduct agricultural production research targeted to local agricultural producers without first ensuring that those projects met criteria for use of federal funding. Secondly, the nature of the food system has changed dramatically. Agriculture is now dwarfed by the value added in processing and marketing. Decisions in the food system are now being driven increasingly by consumer needs and concerns. Despite this, production-oriented research still dominates the LGCA agenda. No matter how you slice it, even after considering the limitations of the research and extension databases, experiment station projects oriented toward production account for the lion's share of all research spending.

Lastly, meetings with clientele of LGCAs across the country all too often revealed that stakeholders from all walks of life, including many traditional agricultural

clientele, felt that the LGCAs were not relevant to their concerns. Most consumer and environmental groups who work on food and agricultural issues have little, if any, contact with LGCAs, largely because the researchers, economists and extension advisors are perceived as being defenders of the status quo. Moreover, even traditional production agriculture clientele expressed a growing sense of disenfranchisement.

The danger here, of course, is that once the system is perceived as either having lost its way--a perception that even growing numbers of traditional clientele find themselves hard pressed to counter--it will be harder for LGCAs themselves to control the sea changes that are sure to follow. Under these circumstances, unless the LGCAs find a way to genuinely reconstruct themselves from within, external forces and actors from the outside will likely drive the process of change.

The "Spillover" Question

A common reply to the critique of the mix of LGCA research projects and expenditures mentioned earlier in my talk is the "spillover" defense. It is often argued that a research mix heavily weighted toward increasing agricultural productivity is inherently relevant to the society as a whole--and, thereby, inherently worthy of being funded by federal taxpayer dollars--since it is consumers who ultimately benefit from such research through access to an abundant, affordable food supply.

Let me assure you that NRC committee members were well aware of these apparent spillover benefits. Nonetheless, the spillover argument did not win the day. First, affordability and abundance have also been accompanied by significant external health and environmental costs associated with food production and processing. Secondly, the spillover argument neglects the consumer-related opportunity costs of productivity enhancing research. In most cases, production research has not been directed at consumers, but at producers. Other potential research, specifically designed to address pressing consumer concerns, was never conducted because funds were gobbled up for productivity-enhancement projects. It is not hard to conceive that these consumer-focused projects would have produced larger benefits to the nonagricultural sector than provided by the productivity oriented projects. The failure to give sufficient priority and funding to the development of reliable, inexpensive, rapid-testing methods for meat-and poultry-borne pathogens is one example that comes to mind. In short, while there have been positive public spillovers from research focused on agricultural production goals, the negative external costs and the opportunity costs of foregone consumer-oriented research greatly undermine the classic spillover defense.

The arguments for unquestioned federal funding of production research are further eroded by the fact that, in the absence of federal funds, much of that research would likely have been conducted by the local producers themselves or funded by

the state government at their insistence. Unless, of course, the research was not of very high priority and value to the local producers in the first place. (The same type of argument can be made against claims that most state-based agricultural research has spillovers across state lines. No one argues that much of the LGCA research has these regional spillover effects. The operative question is, again, can federal money be better spent on projects specifically designed to produce much larger region-wide benefits?)

Given the weakness of the spillover argument, it is extremely difficult to justify why *federal* taxpayer dollars should fund much of the agricultural production research conducted primarily for the benefit of in-state producers. Furthermore, one does not have to be a complete cynic to conclude that the spillover defense of LGCA use of federal research funding for agricultural production projects is largely an ex-post rationalization of previous and existing projects that were never subjected to an ex-ante evaluation of their merits based on comprehensive criteria for the use of *federal* funding. One of the real breakthroughs in the NRC report is the call for the establishment of such criteria and a discussion of what they might look like.

Increasing Input from Diverse Stakeholders

My conversations over the past few years with NRC committee members and others from within the LGCA system indicate that there are a growing number of LGCA personnel who believe that input from a broader range of stakeholders is essential to the survival of the system. Aside from the inherent value that they place on stakeholder input and greater relevancy, they are, from a practical standpoint, greatly concerned that their institutions will be left behind by a changing food system and a changing society.

This is hardly a universal appraisal. The diversity of the reactions to the NRC report's conclusions and recommendations on stakeholder input suggests that it is viewed by some as an undesirable politicization of the research agenda, a threat to academic freedom, or an unwanted incursion into university decision making by players who are unsympathetic to agriculture and its research agenda. Still others probably view greater stakeholder input as a nuisance that they have to put up with as the political winds shift.

The increase, in the last five years, of the number of stakeholder listening sessions, user group workshops and research priority round tables reflects the profound schizophrenia within the LGCA community on the stakeholder participation question. As one of the few children of the LGCA system working on food and agricultural issues as a consumer advocate, I attended more than my share of these events. Unfortunately, the outcome of these gatherings suggests that political expediency largely triumphed over a genuine commitment to broader participation. In the end, as far as I can tell, input was rarely, if ever, translated into real impacts on

priorities, resource allocation and the decision making process. This is where the rubber meets the road on this issue. At a time when their political capital is slowly hemorrhaging, LGCAs should be seeing stakeholder input as a way to acquire greater political legitimacy and expand their base of support. These potential benefits will never be reaped, however, without also ensuring that input is visibly translated into impact.

On the other hand, greater stakeholder input and the legitimacy it brings cannot be obtained without costs to those interested in maintaining the status quo. Obviously, the kind of input being discussed here will require greater sharing of control over decision making about priorities and resource allocation. It will also require LGCA personnel to work closely with nontraditional stakeholders on issues of great concern to them. That might even require taking public positions that will give traditional production agriculture clientele considerable heartburn. The fact that LGCA personnel have so often been spokespersons for traditional agriculture interests in the battles over controversial consumer and environmental issues only reinforces the widespread perception that they have been captured by production agriculture.

Greater legitimacy will also require LGCAs to provide tangible outcomes that are valued by nontraditional stakeholders. Although this has not occurred frequently to date, there are some positive models that can be viewed as a sign of hope and can provide a guide to future endeavors. One example is from my own experience while at Public Voice. A few years ago, Public Voice collaborated with the Food Marketing Policy Center at the University of Connecticut to produce and release a widely covered report on access to supermarkets for low income consumers in more than twenty urban areas throughout the country. These examples, unfortunately, are all too unusual. As a result, few nonfarm constituencies, including consumer, environmental and public health groups, have had any contact with LGCAs or are aware of the potential for mutual involvement.

Finally, greater stakeholder involvement also will cost money. Participation often means a physical presence by stakeholders and the establishment of genuine working partnerships. Both will require resources for travel and other out-of-pocket expenses, as well as for grants for joint projects.

Formula Funding

No presentation on the future of the LGCAs is complete without at least some discussion of federal formula funding for research and extension. It is not my intention to engage in a debate over the merits or shortcomings of formula funding. Rather, I want to focus my attention on its potential political vulnerability. Indeed, federal formula funding could well be one of the main Achilles heels of the LGCA system in the coming debates over its future.

From a political perspective, I believe that the time has come for the LGCA community to put the "to do or not to do" debate over formula funding behind it. That is more or less what the NRC report did. The report provides a middle-ground road map for refashioning the federal formula funding equation in a way that might just stand up to legitimate political criticism of this antiquated funding mechanism. If I had to make a prediction, I would be inclined to say that if formula funding is not reformed, and fairly soon, a public policy debate will eventually ensue that puts complete elimination of formula funding at the forefront of the alternative policy options.

For those who are unconvinced that federal formula funding is politically vulnerable, just apply the *federal* funding criteria laid out in the NRC report and try to make a case for continuation of the program. It simply will not work. Remember, this is not about whether LGCAs should do the research currently supported with formula funds. Rather, it concerns whether the federal government should provide such a blanket subsidy without the use of any criteria other than the ones in the current formula.

To make my point a bit more graphically, I want to conjure up a hypothetical future scenario. Imagine the title of a 60 Minutes expose: "*Academic Welfare: How Fifty Privileged Universities Fleece American Taxpayers of $ Hundreds of Millions a Year.*" Picture a LGCA dean or National Association of State Universities and Land Grant College (NASULGC) official in an on-camera interview when confronted with information about: the size of the subsidy; the criteria used to determine the funding allocations; the fact that no other research is funded by the federal government in this way; and the inability to account for how the nation's formula funds are spent.

Under these circumstances, the standard replies to formula funding's critics are not likely to have much success. Imagine the viewing audience's reaction to responses that cite agriculture's unique characteristics: the long history of the federal state partnership, the need for follow up management of research, and so on. Formula funding is going to come out smelling badly and be easily cast by investigative reporters as a wasteful entitlement conveniently overlooked by the agriculture committees at the same time that they went along with billions of dollars in cuts in food stamp benefits.

Is this just another worst-case scenario cooked up by a Washington public affairs junkie? Perhaps, this is true. But, it is not all that unreasonable to picture the public interest community--especially if it remains disenfranchised from the LGCAs -- deciding to take aim at the pot of gold being diverted to the agricultural research establishment. It does not take a political scientist to realize that there will be future fights over agricultural spending as consumer, health and environmental groups seek to free up funds for food safety, nutrition, public health and environmental programs. One of the first places they are likely to look is at formula funding, unless it has been dramatically redesigned to reduce its political vulnerability.

Postscript: The Senate Agriculture Committee's Research Bill (S. 1150)

Recently, the Senate agriculture committee quietly introduced legislation containing reforms that reflected some of the recommendations in the NRC report. This is further indication that the future of the LGCAs is increasingly becoming a national public policy issue. It is also an indication of how little things change even when the need for change is being evoked by politicians.

To its credit, the bill addresses, among other things: the need for more regional research projects; application of national needs' criteria to federally funded projects; and the need for greater stakeholder input. Simply having these issues addressed in an important piece of federal legislation is a major step forward. While the legislation is long on the NRC report's concepts, however, it is woefully short on specifics. The requirement for greater stakeholder input is a case in point. The bill provides so few specifics on this question that it is impossible to predict what form such input would take, how it would translate into real impact, and which stakeholders would be included. With execution of the legislation in the hands of the Department of Agriculture, can anyone really be sure that the spirit of the NRC recommendations will prevail? Clearly, the devils are in the details, of which few are available.

The legislation also appears to take seriously the NRC report's recommendations for greater funding for competitive grants programs. Unfortunately, it completely disregards the criteria for federal funding specified in the report. As a result, the legislation was able to join the best and the worst of agricultural research funding mechanisms and give birth to what might cynically be viewed as "competitive pork." Up to $170 million a year is allocated for a new competitive grants program to conduct research explicitly designed to benefit traditional agricultural production interests such as the major agricultural commodity groups, the agricultural biotechnology industry, and the fertilizer industry. This kind of spending increase will likely attract attention and require some serious scrutiny. I would say that the odds are pretty good that before too long, the bill's sponsors will roll out the old consumer "spillover" defense.

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The Future of Land Grant Universities: A Response to the Report of the National Research Council

LeRoy Luft
Idaho Cooperative Extension System

About nine months ago, when Fred Woods asked if I would participate in this conference to respond to the National Research Council (NRC) Report, *College of Agriculture at the Land-Grant Universities: Public Service and Public Policy* (NRC 1996), I readily agreed to do so. I had just completed my term as chair of the Extension Committee on Organization and Policy (ECOP). That term was filled with opportunities to deal with various groups intent on studying and reforming the land grant system, especially the extension and/or research component. At one time, we listed 22 studies that were in progress. During that time, the House Committee on Agriculture also generated 57 questions for our response.

The first component of this National Research Council study, the 1995 profile (NRC 1995), was shared with ECOP. Numerous data corrections were offered. While we knew the makeup of the NRC study group, many of whom were from the land grant system, the details of the recommendations were quite effectively guarded until the study came out.

The report did not call for a response, but the land grant community, through its committees on organization and policy, felt we should collectively conduct an analysis of the recommendations. To accomplish this, ECOP and Experiment Station Committee on Organization and Policy (ESCOP) members solicited reactions from their regional director groups. This information was consolidated and comments about each recommendation were prepared by each Committee on Organization and Policy. The purpose for doing this was that "if or when" members of the system were asked to respond or comment, there could be a common base for the response, even though there were regional and state differences in terms of reactions to the 20 recommendations. It is largely from that analysis that I will respond to the report (ECOP and ESCOP). It is not a coincidence that several of the recommendations from the National Research Council report are, as we are meeting, before the House and the Senate for Title VIII of the farm bill.

Our speakers have done an excellent job of outlining a number of political and practical considerations. For us to deny the need for change in the land grant system would be foolish. On the other hand, change for change's sake is also foolish. There are some in the political arena that have felt that something, however identified, needs to be changed for research and extension in the new farm bill.

I will key my comments to a few of the areas addressed by our speakers, those being increasing input from diverse stakeholders; enhancing accountability; integration of teaching, research and extension; and formula funding.

The first recommendation addresses the issue of increasing input from stakeholders, indicating that "receipt of funds should be contingent upon our ability to demonstrate that a wide variety of stakeholders have effective input into a systematic prioritization of issues that specifies areas of increased and decreased emphasis. We must demonstrate that a wide variety of stakeholders are consulted in resource allocation decision making processes" (NRC 1996).

We agree that stakeholders should have a voice in the prioritization process. A system or procedure would have to be organized so that the U.S. Department of Agriculture could be assured that institutions are asking the right questions of the right people. Stakeholder input is currently being solicited. While the NRC report was still "behind the curtain," the Joint Futuring Activity, sponsored by the Board on Agriculture, was in a contemporary effort to involve land grant university stakeholders in the process of setting priorities and future directions. Public forums were held around the country. The report, *Issues to Action* (Carpenter and Fischer 1996), is on the streets and it is up to the various universities to carry out their action plans. The recommendation of more thoroughly involving stakeholders also came from those involved in the futuring activity. Currently, state extension services submit a plan of work as a condition of receiving federal funds. It would be very simple for the Cooperative State Research Education and Extension Service (CSREES) to request additional information on how states are involving stakeholders in setting priorities. Virtually all counties and states use an advisory process for extension. Many also have college-wide advisory groups. We agree that this recommendation is important and appropriate. The system must devise a way to make it work.

The second recommendation suggests that states should critically assess the needs of all producer population groups, develop target and priority programs for each and adjust technology transfer and information delivery models appropriately (NRC 1996). This could be difficult. Taken literally, in Southwest Idaho, we have approximately 120 producer population groups for which to develop target and priority programs. This would virtually eliminate any time for programming. States need some flexibility in this regard.

Accountability is another key issue. Better organization of data to enhance usefulness to both administrators dealing with decision makers and to clientele, as well as information on "returns to public investment" makes good sense. Demands on public resources require emphasis on outcomes and results. This recommendation is in support of the Government Performance and Results Act (GPRA) and is achievable. Strong leadership from the federal partner will be essential. An accountability workshop is scheduled in Minneapolis, October 2-4, 1997, to address

accountability from a perspective somewhat different than GPRA. Many within the system are not comfortable with current processes, including GPRA, for collecting and analyzing data. There is a desire for a more complete, user friendly system for accountability. The Oregon-Invest Program will be the focus of the Minneapolis workshop, with time to consider its potential. As a system, we must work together for greater accountability. It is not just an administrative problem; rather, accountability must be the new mindset for each faculty member wishing to benefit from public funds.

Issues of funding have generated the greatest amount of discussion within the system. The system is not in favor of changing the formula for allocation of Hatch or Smith-Lever funds. The system response states that the current formula system is reasonably effective in distributing funding in relation to size of population and scale of agricultural enterprises within the states. Opening this issue would lead to a lot of competition among states, political activity and acrimony that could be disruptive to the research and extension mission. I think that Congress realizes that establishing a new formula will create losers as well as winners, as funds are reallocated between states.

Another proposal with regard to funding is to shift a percentage of formula funds to competitive funding. Wallace E. Huffman and Richard E. Just, in an article in *The American Journal of Agricultural Economics* in 1994, titled "Funding, Structure, and Management of Public Agricultural Research in the United States" state that "The results provide evidence that federal formula funds and state funded research are more productive. These results suggest a reduction in productivity will result from the increasing domination of agricultural research funding by competitive grants" (Huffman and Just, p. 744-759.)

One of the more contentious issues is the recommendation that the federal government should require that states match formula funds going to 1890's for both research and extension. While this sounds good in principle and, generally, the 1890's are in favor because it would greatly enhance their resources and their ability to serve limited resource and minority populations, there are some that are concerned because their states may not agree to provide the match. Many state governments are generally opposed to new federal requirements that mandate increased state spending. Others are financially unable to meet the challenge. Should this recommendation become part of federal legislation, one would hope that some sort of "held- harmless" clause would protect those states from losing their current federal appropriation.

The recommendation that a substantial portion of extension funds be allocated for multi- state and multi-institutional programs raises some concerns. Currently, formula funds are used in many states to maintain the human infrastructure, i.e., faculty positions. This change could result in the loss of some positions and could

also work in opposition to the concept of stakeholder input at the state level. It will certainly increase the bookkeeping requirements at our level. It will also further tax the ability of the federal partner to organize and manage the process. As in the states, the federal partner is being asked to do more with less. There is currently a lot of multi-state work going on in extension and while research has had regional research efforts for a long time, extension has not been asked to report regional work.

The speakers have suggested that integration of teaching, research and extension must be enhanced. This is probably occurring much more than is realized. At our institution, and many others, faculty now hold joint appointments. These are most common between teaching and research, or extension and research. Nearly all our extension specialists have a research component and vice versa. We have a few teaching-extension splits but find it difficult for extension specialists to be as responsive to stakeholder needs if they are tied to the classroom. We also have a few three-way splits. Some of our extension faculty, at both the state and county level, are now quite involved in off-campus for-credit courses. While the Smith-Lever Act prohibits extension from teaching for-credit courses, we approve extension involvement if a significant number of the student participants are taking it for non-credit. We are finding that many of our clientele want greater in-depth educational opportunities and are interested in regular courses. Our greatest concern in combining teaching, research and extension funds into one allocation is that extension and research would, to an increasing extent, subsidize the academic program component. As state funds are cut, there would be increasing pressure to use research and extension dollars for teaching. Current logistics, at our institution, have the research and extension dollars coming to the college and the federal teaching dollars going to the university, as per the original land grant agreements. Also, there are an increasing number of institutions where extension is administered outside the College of Agriculture. For these reasons, we feel that separate lines must be maintained.

The NRC report has identified a number of issues and has raised the level of discussion within the land grant system about these issues. The partnership must continue to work towards improvement and change. Real change must come at the level where the programs are conducted and consumed. Discussion of these issues should occur at each land grant institution across the country. The discussion is warranted at levels above the College of Agriculture as well.

I will be glad to respond to questions. Thanks for the opportunity to participate in this public policy conference.

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Future Opportunities and Challenges

Priorities in the Changing World of Agriculture

I. Miley Gonzalez
Under Secretary, Research, Education and Economics-USDA

Agriculture is undergoing major changes. The phase-out of the farm program safety net, the growth of international trade, and the development of new crops and varieties through biotechnology present farmers with a vast array of choices. Each choice presents both opportunity and risk. Farmers look to USDA for effective, research-based options: decision-making skills that make the difference between failure and survival--and survival and success. USDA is in a position to provide the leadership to address emerging problems that affect the spectrum of economic, environmental, and social conditions in the United States and worldwide.

We must find answers to increasing agricultural productivity without damaging soil fertility, fragile ecosystems, or our air and water quality. Population growth and improving diets in third world countries has changed the world food situation from one of surplus to that of near supply-demand balance. Science-based knowledge is essential to the future success of agriculture and the land-grant community is the foundation of that knowledge.

Farming is no longer the largest element in the economic base of most rural communities in the United States. However, agriculture is clearly important to the fate of these communities. Adequate numbers of off-farm jobs are key to the small family farm and rural communities. Their viability can be addressed by job decentralization, which is driven by fiber optics, fax and Internet communications, and increased agricultural exports, particularly value-added products. Research, teaching and extension provide real world solutions to these real world problems. I repeat, new knowledge is key to success for U.S. agriculture.

Research, education, and extension programs must be strengthened to enable us to achieve long-term sustainability in agricultural production that achieves and maintains profitability, minimizes negative environmental effects, and develops and improves strong rural and agricultural communities. We must respond quickly, and with credibility, to broad public concerns for safe, nutritious and accessible foods.

As we approach the reauthorization of agricultural research, extension and teaching legislation, there are 11 general principles which we are looking for in the new title:

- Using existing legislative and administrative authorities because of the flexibility they offer.

- Encouraging efficiencies throughout the research, education and extension system and reinvesting administrative savings in programs.

- Encouraging multi-functional, multi-regional, multi-institutional activities to achieve maximum leverage of federal, state and local dollars.

- Continuing support for a range of funding mechanisms and the current structure of intramural and extramural research.

- Continuing support for formula funds.

- Merit review with peer evaluation in all research programs with competitively awarded programs.

- An active federal-state-local partnership in setting priorities, conducting the work, and evaluating the work.

- Public sector/private sector partnerships as a means of leveraging scarce federal dollars.

- Responsiveness to national and regional needs in setting priorities with partners and stakeholders conducting the work and evaluating the work.

- Maintain world leadership in agricultural science and education.

- Improving communications with the public.

Currently, members of Congress are closely examining the research, extension and teaching title of the farm bill. On September 25, 1997, the Subcommittee on Forestry, Resource Conservation, and Research of the House Committee on Agriculture will mark up its recommendations. In the Senate, S.1150, introduced by Agriculture, Nutrition, and Forestry Committee Chairman Lugar, is pending consideration. S. 1150 addresses new resources, collaboration and efficiency reforms, accountability reforms and offsets. As you can see, challenges translate into opportunities.

Another challenge before us is how to develop a wiser investment of resources, both human and financial, to continue our effectiveness in an era of tight budgets. The congressionally-mandated Government Performance and Results Act (GPRA) requires that federal agencies develop strategic plans that correlate to the formulation of agency budget requests and that adhere to the "management for results" concept. This plan outlines our expectations for research, education and extension, including

a mechanism for assessing and redirecting agency programs to achieve strategic goals. We began responding to these needs in the 1994 reorganization effort. We need to reach out and build new, innovative collaborations across the public and private sectors. We need a better coordinated research, education and extension approach to problems of regional and national interest. We must re-examine our priorities and the contributions we can make to agriculture, people and communities. Education is the catalyst for responding to change and moving this nation into the next century. Integrated higher education programs will stimulate and enable colleges and universities to provide the quality education necessary to strengthen and replenish the nation's food and agricultural, scientific and professional workforce.

I view the complex challenges to agriculture and the continued effectiveness of the federal partnership as opportunities. We have a solid foundation from which to grow with change to create a dynamic new future. Partnership enhances our ability to proactively address critical national priorities, maximize resources and the benefits of research, and provide essential hands-on, problem-solving knowledge to the people of this nation down to the local community level.

At the federal level, we advance the cause of research, education and extension. We also provide answers to Congress, the White House and other government entities and we broker research, extension, teaching and land-grant system resources. Partnership positions us to truly make a difference in people's lives.

The research, education and economic (REE) mission area of USDA has a deep well of insightful information from its agencies, Agricultural Research Service (ARS), Cooperative State Research Education and Extension Service (CSREES), Economic Research Service (ERS), and National Agricultural Statistics Service (NASS), which is relevant to emerging public issues involving agriculture and rural America. The federal-state partnership rooted in academics and research can reap rewards by classifying and assembling information from many sources and then packaging it in the context of the information age so that it can compete with and complement non-scientific information.

As the newly appointed under secretary of REE, I am excited about the future of education and research, and look forward to overcoming the challenges that face us. The REE mission area has the potential to significantly impact the quality and quantity of scientists, engineers and other agricultural professionals for the next century, as well as to provide leadership to address the future of agriculture.

Agricultural Policy at the End of the 20th Century

Agricultural Policy at the End of the 20th Century

Luther Tweeten
The Ohio State University

Introduction

According to Paarlberg and Orden, the principal cause of the "radical policy change" embodied in the Federal Agricultural Improvement and Reform (FAIR) Act of 1996 was a Republican-controlled Congress and favorable farm commodity prices (p. 1305). If these factors were the primary causes of change, we would expect a return to a Democratic Congress and lower farm prices to also return higher loan rates, supply control, and payments coupled to commodity prices in grain and cotton programs. In addition, we would expect continuation of status quo sugar, peanut and tobacco programs.

This paper contends that commodity policy reforms will continue and deepen after the FAIR Act expires in year 2002 because the root cause of reform is a fundamental change in the intellectual paradigm underlying agricultural policy. Also, a case is made in this paper that the global food supply-demand balance has changed in a manner facilitating continued policy reform.

The next section, describing the paradigm shift, is followed by a section on future aggregate supply-demand balance for farm commodities. Analysis then turns to expected future directions of public policy for agriculture, including options to improve on current and expected policies.

Paradigm Shift

Elements of the new agricultural policy paradigm initially were presented in *Farm Policy Analysis* (Tweeten, 1989), but are contrasted with the old public policy paradigm for agriculture in a recent article by Carl Zulauf and myself in the *Review of Agricultural Economics*. The old and new paradigms are compared for central economic concepts, beliefs, political situation and policy prescriptions in Table 1.

Central Economic Concepts. The old paradigm viewed agriculture as being in chronic disequilibrium. Willard Cochrane's treadmill theory holds that forces of science and industry continually impose irresistible technological advances in agriculture which cannot adjust rapidly enough to avoid persistent low returns, excess production capacity and excess farm labor resources (Table 1).

Table 1. Old and New Public Policy Paradigm for Agriculture.

OLD PARADIGM	NEW PARADIGM
Central Economic Concepts	
Economic disequilibrium • Excess production capacity • Excess labor • Low rates of return	Approximate long-term economic equilibrium • Economic efficiency • Importance of off-farm income
Underlying Beliefs	
Farm fundamentalism Agriculture as family-farm way of life Market failure	Democratic capitalism Agriculture as a successful family business Government failure
Political Situation	
Pivotal voting power at margin	Increased reliance on monetary contributions and direct contacts with members of Congress and the Executive Branch
Policy Prescriptions	
Agricultural Policy Emphasizing Commodity Programs • Supply control • Government payments tied to production base • Stock adjustments • Food security through government	Public Policy for Agriculture Emphasizing Market Efficiency • Removing market barriers • Providing public goods and internalizing externalities • Promoting economic equity with safety net • Food security through private sector

Source: Tweeten and Zulauf (1997).

In contrast, the new paradigm views agriculture as nearer long-term equilibrium (it is always in very short-term equilibrium but never fully reaches long-term equilibrium) and recognizes that commodity markets work. Markets promote economic efficiency to provide food and fiber at low cost to benefit consumers and international competitiveness. It is not that forces of change have stopped; rather, the new paradigm recognizes that commercial agriculture adjusts quickly enough to avoid chronic low returns on resources. Empirical evidence that reasonably well managed

commercial farms earn a return as high as their resources could earn elsewhere, with or without commodity programs, provides strong support for the new paradigm. Economists increasingly recognize that farm commodities are rival and exclusionary *market goods* rather than *public goods* requiring government intervention. The new paradigm recognizes the importance of off-farm incomes to provide economic vitality for seemingly inefficient small farms.

Underlying Beliefs. With less than one percent of the nation's population, commercial farmers (the principal beneficiaries of farm commodity programs) are not in a position to dictate farm policy without approval of nonfarmers. Under the old paradigm, commodity programs for farmers were sanctioned because large numbers of nonfarmers subscribed to *farm fundamentalism*: the belief that family farmers are an essential part of our heritage and, hence, must be preserved. The belief that agriculture should be a family-farm way of life and that market failure was widespread also motivated public favor for agriculture in the political arena (Table 1).

In contrast, the new paradigm places greater emphasis on democratic capitalism, apparent today in the conservative shift in public policy. Agriculture is viewed more as a business, in part because of the widespread press given to corporate farming, vertical coordination and factory farms. The collapse of socialist states, the many scandals plaguing American government office holders, and the almost nightly exposé of government mismanagement on television news and on news magazine shows have shifted the focus from market failure to government failure.

Political Situation. Under the old paradigm, farmers did not have to rely just on farm fundamentalism; they could count on impressive economic visibility and ballot numbers in many rural areas. In 1950, farming contributed 20 percent or more of total county earned income in more than 2,000 of the approximately 3,000 U.S. counties (U.S. Department of Agriculture, p. 10). Although farmers were a small percentage of voters, in elections often decided by margins of one percent or less, they exercised pivotal voting power under the old paradigm. By the late 1980s, only 556 counties depended on farming for 20 percent or more of earned income.

Loss of voting power and the intellectual foundation for supply controls and transfer payments to producers has forced producers to rely more heavily than before on raw political power to support commodity programs. Agriculture continues to wield substantial political power, but the farm population is too small in many states to be decisive in all but the closest elections. This situation, along with erosion of the family farm public image, is shifting commercial agriculture under the new paradigm to the political mode of conduct of businesses such as Cargill or ADM. Such firms, lacking votes, wield political influence through political contributions, paid lobbyists (to contract members of Congress and the Executive Branch), and paid advertisements to create a favorable public image.

Future Economic Climate for Policy

Before examining policy prescriptions, attention turns to food supply-demand and economic climate for agriculture at the end of the 21st Century and beyond. Historic global yield and area trends for crops provide the foundation to project the future supply of food. Livestock and livestock products receive less attention in this section because livestock output depends heavily on crop output and because data on livestock productivity trends are meager. Subsequent analysis also examines historic and prospective trends in population and income components of food demand, which are compared with supply projections.

Supply of Food. *Net* global area in crops has remained quite stable since 1960 and is not very sensitive to price. The stable net area hides considerable expansion of cropland by drainage, deforestation and irrigation offset by losses of cropland to desertification, development and other uses. Although future demand for land is not explicitly measured in subsequent analysis, readers can infer possible needs for additional cropland based on the imbalance between trends in expected demand for food and expected supply of food from yield gains alone. Emphasis is on cereals, although yield trends have been analyzed for other crops (see Tweeten 1997 for details on this and other analysis in this section).

Cereals. Past cereal supply trends display notable characteristics:

- Almost all production expansion has been from yields in recent decades—global area in cereals was essentially the same in 1996 as in 1961.

- From 1961 to 1996, global cereal yields expanded around the straight line predicted by Thomas Malthus (Figure 1). The rate of gain averaged 44 kilograms per hectare per year.

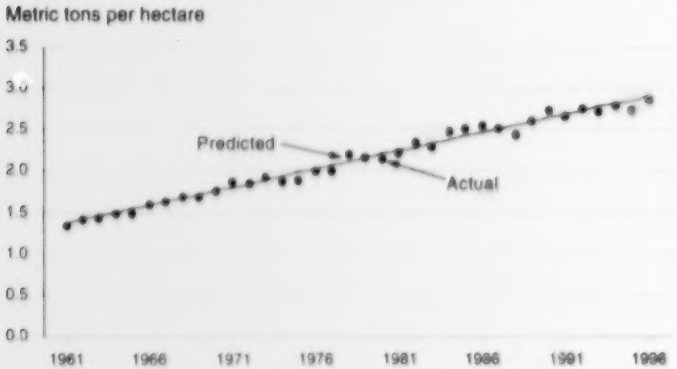
- Clusters are apparent of approximately five years of flat yields followed by a sizable yield gain.

- The linear yield line implies declining percentage rates of yield growth. For example, the 3.2 percent trend growth rate for cereal yield in 1961 fell by half to 1.6 percent in 1991. If global population continued to grow at the 1.7 percent annual trend rate of 1991, the portents for world food security would be onerous indeed.

Other Crops. Yield graphs (not shown) for other crops also show linear trends apparent for cereals in Figure 1 (see Tweeten 1997 for graphs). Yield percentage gains for other crops are lower than for cereals. Like cereals, percentage rates of

yield increase were slowing although, unlike cereals, the rates of gain were not halved between 1961 and 1990.

Figure 1. World Yield for All Cereals, 1961-1996.



Annual % change	3.20	2.42	1.95	1.63	1.51

Source: FAO (1997).

Livestock. Data comparable to those for crops in Table 2 are not available for livestock and livestock products. However, livestock offers only limited opportunities to expand productivity of agriculture. They require more resources per calorie of food than do crops. The Office of Technology Assessment (p. 18) projected the following growth rates in American animal production technology from 1982 to year 2000:

	Annual growth (%)		Annual growth (%)
Pounds beef per pound feed	0.2	Pounds pigmeat per pound feed	0.6
Pounds milk per pound feed	0.2	Pounds poultry meat per pound feed	2.0

If these rates are representative of world conditions, they provide little optimism that livestock productivity gains will improve food security. Nonetheless, livestock remain an excellent means to utilize land unsuited for crops, provide a buffer for consumption when crops fail, supply high quality protein and other nutrients, and are a favored food as income rises.

Table 2. World Crop Yield and Demand (Population and Income Per Capita) Trend Growth Rates by Selected Years.

Yield or demand	Historic				Projected					
	1961	1970	1980	1990	2000	2010	2020	2030	2040	2050
Supply (yield gain)	(Percent per Year)									
Crops[a]										
Cereals	3.20	2.48	1.99	1.66	1.42	1.25	1.11	1.00	0.91	0.83
Vegetables and melons	1.79	1.54	1.34	1.18	1.06	0.95	0.87	0.80	0.74	0.69
Pulses	1.01	0.93	0.85	0.78	0.72	0.68	0.63	0.60	0.56	0.53
Roots and tubers	0.82	0.77	0.71	0.66	0.62	0.59	0.55	0.52	0.50	0.47
Oilseeds	0.49	0.47	0.45	0.43	0.41	0.40	0.38	0.37	0.35	0.34
Total (weighted average)	2.78	2.18	1.77	1.49	1.28	1.14	1.01	0.92	0.84	0.77
Demand										
Population gain										
IIASA (Lutz *et al.*)	1.83	2.03	1.85	1.74	—[b]	1.47	1.13	0.87	0.67	0.51
UN (medium)	1.83	2.03	1.85	1.74	1.44	1.24	1.08	0.88	0.65	0.48
World Bank (Bos *et al.*)	1.83	2.03	1.85	1.74	1.47	1.28	1.09	0.91	0.68	0.57
Income effect gain	0.40	0.38	0.36	0.33	0.31	0.29	0.27	0.24	0.22	0.20
Total demand gain										
UN pop. plus income	2.23	2.41	2.21	2.07	1.75	1.53	1.35	1.12	0.87	0.68
Excess demand										
Demand less yield gain	c	c	c	c	0.47	0.39	0.34	0.20	0.03	-.09
Price impact										
Price flexibility (3.0) times excess demand	c	c	c	c	1.41	1.17	1.02	0.60	0.09	-0.27

[a] Extension of linear trend (see Tweeten 1997). Yields of livestock and other crops are assumed to increase at the weighted (by calories) average for the five crops shown.
[b] Not predicted for year 2000.
[c] Not included because depended on stocks, government diverted area, and other considerations not considered in this study.

Comment on Yields. In summary, global yield trends for crops and measures of livestock feeding efficiency provide a sobering picture for consumers. The hypothesis cannot be rejected that global yield trends from 1961 to 1996 are linear. In Table 2, projected yields are merely extensions of historic linear yield trends. Given that crop area is unlikely to expand without higher real prices for farm food ingredients, can the disappointing yield trends depicted in the previous paragraphs expand supply enough to meet the growing demand for food without higher real commodity prices?

Demand Trends. Demand for food is driven by two major components—population and income. Population growth is the more important of these two drivers.

Demographers are projecting a population trend turnaround: the world seems headed for zero population growth (ZPG) in the not too distant future after growing exponentially for at least two centuries. Table 3 shows the year and number of

Table 3. Total and Annual Food Demand Growth to ZPG from 1995.[a]

Study	ZPG Population[b] (billion)	Years to ZPG[c] (Year[s])	Per capita food demand increasing: 0.2%/year Demand growth Total	0.2%/year Annual	0.3%/year Demand growth Total	0.3%/year Annual	0.4%/year Demand growth Total	0.4%/year Annual
			Percent					
Mosher	7.0	35 (year 2030)	34	0.84	39	0.94	44	1.04
Avery	9.0	45 (year 2040)	76	1.26	84	1.36	92	1.46
IIASA (Lutz)	10.5	89 (year 2084)	124	0.91	144	1.01	167	1.11
UN (medium)	10.3	99 (year 2094)	124	0.82	147	0.92	173	1.02
World Bank (Bos et al.)	11.3	133 (year 2128)	163	0.73	201	0.83	243	0.93

Source: see text.

[a] 1995 world population 5.6 billion.

[b] When data from the source was incomplete, the ZPG population and year was projected using a quadratic equation fitted to available data.

[c] See Tweeten 1997, Annex Table 1, for details.

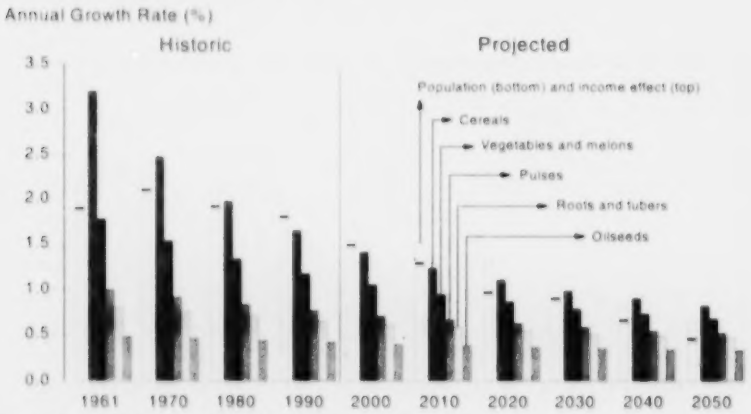
people when zero population growth is achieved as projected by the United Nations (UN medium), World Bank (by Bos et al.), International Institute for Applied Systems Analysis (IIASA by Lutz et al.), and by Steven Mosher (p. A-16) and Dennis Avery (p. 7). The five estimates for global ZPG range from year 2030 and 7 billion inhabitants by Mosher to year 2128 and 11 billion inhabitants by the World Bank.

Overall food demand depends on income as well as population. The most likely scenario is for global aggregate food demand to increase by 0.2 to 0.4 percent per capita annually on average due to rising incomes (Tweeten 1997). At a 0.3 percent rate, *per capita* food consumption gains by ZPG over the 1995 range from 10 percent (Mosher, president of the Population Research Institute) to 49 percent (Bos et al. for World Bank). Adding the impact of population growth to income, total demand for food is projected to increase from 39 percent (Mosher) to 201 percent (Bos et al.) from the 1995 level before ZPG is reached. The latter estimate implies that food production will have to triple from 1995 levels before reaching global ZPG.

At issue is whether expected demand increases will cause real commodity prices to rise—given the yield trend measured earlier. To address that issue, Table 2 and Figure 2 summarize global supply (yield) and food demand trends by decade to year 2050. Projected rates of yield gain are merely extensions of the linear yield trends from 1961 to 1996.[1] Population estimates in Figure 2 are medium UN projections. Per capita food demand increments from income are assumed to slow due to pricing pressures.

[1]Population forecasts by Avery and Mosher are omitted from Table 2 and Figure 2 because they do not provide population estimates prior to ZPG.

Figure 2. Global Demand Growth Rates (from Income and Population) Contrasted with Crop Yield Gains.



Source: Population projections from United Nations.
Yield data from FAO (1997).

Three supply/demand balance periods characterize data in Table 2 and Figure 2: first is prior to 1980, when cereal yield gains on average exceeded demand gains. Real commodity prices fell sharply and reserve capacity accumulated as diverted acres, storage stocks and subsidized exports. The trend reversed in the 1980s, but America had enough reserve capacity in commodity stocks and diverted acres to avoid increasing real food prices. Real commodity prices at the farm level were not much different in 1996 from a decade earlier, however.

Now that America's reserve capacity of diverted cropland, accumulated stocks and subsidized exports is spent, a second era, one of potential food insecurity, is apparent to 2030. On average, demand is projected to increase faster than yields. Without yield advances in excess of those anticipated, real prices for farm food ingredients are likely to rise to draw more land and other resources into food production.

A third period emerges after 2030. World demand is expected to increase 0.87 percent per year (medium UN population, 0.22 percent per capita demand growth) in 2040 and 0.68 percent per year in 2050, somewhat less than the projected annual cereal yield growth of 0.91 percent in 2040 and 0.83 percent in 2050 (Table 2).

The prospect of rising real farm and food prices is real, but warrants neither panic nor complacency. In year 2000, demand growth is likely to exceed all crop and livestock yield growth by 0.5 percent per year. A 0.5 percent global excess food demand growth would raise the real price of farm food ingredients 1.5 percent. The shortfall of yield growth below demand growth is less and, hence, price increments are less after year 2000.

Although real farm level food prices may rise in developed and developing countries on average for the next three decades, any increase is likely to be readily absorbed and, indeed, hardly noticed by consumers in developed countries. Americans, for example, on average spend only 2–3 percent of their income on farm food ingredients. Even a doubling (absurd) of farm food ingredient prices would reduce consumers' real income only 2 percent. However, rising real food prices are a hardship for low income families at home and abroad because they spend a much higher proportion of their income on food than does the average American family. Farmers benefit from price increases, but are cautioned against excessive bidding for land. Instability will continue to be the major economic problem for commercial farmers, and cyclical downturns in economic conditions could punish land market plungers.

Finally, it is important to note that distant predictions become especially unreliable. That unreliability could, of course, mean a more or less favorable food supply-demand balance than depicted in this analysis.

Policy Prescriptions

The review of economic concepts, beliefs and political situations in Table 1, coupled with projections of a generally tighter global future food supply-demand balance than in recent decades, helps to place future agricultural policy in perspective. Key issues are likely to be structural change, economic instability, environment, trade, research and rural development policy.

Structural Change. FAIR transition payments in conjunction with favorable farm prices and receipts in 1996 and 1997 provided sizable transitory income out of which farmers acquired machinery and other assets. While such preparation makes sense for a "rainy day," many operators found themselves holding excess machinery capacity and attendant debt. This happened at a time when machinery requirements per acre and per unit of output were being cut by conservation tillage, Roundup-Ready soybeans and other technologies. The consequence was substantial pressure for farm consolidation. Anticipating better future commodity and land prices for agriculture, many landowners preferred to rent out rather than sell their land. The result was increasing size and decreasing numbers of farms, an increase in the

proportion of rented land, and higher land rents and prices. One policy implication is that farm prosperity does not necessarily save the family farm.

Given a generally favorable economic climate, depicted in the previous section, for agriculture and the new paradigm recognizing that commercial farmers are capable of adjusting to emerging economic circumstances without incurring chronic low rates of return on their resources, continued "transitory" payments to farmers after 2002 are not justified on economic grounds. In contrast to tobacco, peanut and sugar programs, the grain and cotton programs were restructured because they must be competitive in export markets, had not made producers as dependent on them, and had depended on the Treasury rather than consumers for transfers. The public and policy makers are much more tolerant of opaque income transfers from consumers than transparent subsidies from taxpayers. Legislation in year 2002 likely will continue to reduce income transfers to grain and cotton producers.

As the interregional coalition or farm bloc of support for commodity programs under the old paradigm breaks down, the South will find political support for peanut, sugar and tobacco programs more difficult to sustain. The pressure will be keen to restructure these programs. A continued Pigouvian tax on tobacco and sugar is justified, however, to discourage currently excessive consumption, but proceeds of the tax appropriately would accrue to health providers rather than to producers. Structural adjustment could be especially painful for producers who have grown heavily dependent on these programs.

Milk marketing orders do not function well when the government no longer removes surpluses generated by blend pricing from the market. Reforms are underway, but the Northeast Dairy Compact does not appear to be an acceptable reform model because it restrains interstate commerce.

Economic Instability. According to Daryll Ray, "... if there was one thing analysts could agree on about the new farm bill, it was this: The bill will subject agriculture to increased price and income risk" (p. 89). He goes on to conclude that the impact of risk is "operators are unable to use their most efficient combinations of resources *post hoc* in order to produce the optimal mix of products in the short run" (p. 90).

Given the wide array of risk management institutions and strategies available to farmers and agribusiness today, with time it is conceivable that storage, forward pricing, insurance, diversification (including off-farm employment and investments), vertical coordination, leasing, liquidity and the like will enable farm operators to cope with risk so that it will pose no greater hardship under the FAIR Act than under previous commodity programs. As noted by D. Gale Johnson years ago, producers can find a more efficient resource level and mix to supply output under forward (fixed) commodity prices. However, such "efficiency" can be offset by an inefficient

product mix and level if prices are set at the wrong levels by central planners. Hence, forward pricing is best left to futures and options markets. The flexibility under FAIR to plant in response to emerging weather and market conditions has been welcomed by many producers. Though not a large or representative sample, the farmers I have talked to in Ohio say they do not favor a return to supply management even if farm prices fall.

For producers, I anticipate that year 2002 farm legislation will provide a safety net for grains and cotton with two principal features:

- Modest-level marketing loan with no government stock accumulation.
- Crop or revenue insurance provided through the private sector but with considerable government subsidy.

While this outcome seems likely, other options could further economic efficiency and equity. Farm operators are well aware that risk is endemic to farming. They are not welfare cases and can afford to pay for worthwhile risk management strategies. Insurance subsidies encourage uneconomic production in high risk areas, often on fragile lands better left in less environmentally-destructive uses. Publicly-supported crop insurance programs generate substantial waste and high administrative cost.

Despite the weak economic case for subsidized insurance, much political pressure will be placed on the government to address risks in agriculture. The challenge is to devise programs that are politically acceptable while reducing administrative, taxpayer and farm resource misallocation costs.

Carl Zulauf and I suggested an option patterned after the Net Income Stabilization Account (NISA) used in Canada. The program could be operated in conjunction with income tax collection to smooth net income of farmers from all sources. It would operate like an investment retirement account (IRA), with producers paying into the account (with modest government matching) in good years and drawing out in bad years. The program would have high target efficiency in stabilizing the "bottom line" for farm operators and net income from all sources, at low administrative cost. The program also has shortcomings such as lack of pooling of risk.

For consumers, especially in food-insecure developing countries, 2002 legislation is likely to continue the Food Security Commodity Reserve. That emergency food reserve, now including coarse as well as food grains, has been capped at 4 million tons for some years. Because Americans have sizable buffers even in the short run through private buffer stocks, exporting less, importing more, feeding less and slaughtering livestock, and haying or grazing Conservation Reserve Program (CRP) acres, it follows that the main beneficiary of the Security Reserve is less developed countries. If greater food security reserves are desired, an option is to

raise the Food Security Reserve above 4 million tons rather than return to the more costly and economically-intrusive former programs of acreage set asides or Commodity Credit Corporation stocks.

Environment. The FAIR Act extended the CRP at 36.4 million acres, but with greater emphasis than past programs on water quality and less emphasis on supply control. Dicks and Coombs estimate that only 18 million acres of U.S. cropland cannot be cropped with erosion below the soil regeneration tolerance rate of approximately 5 tons of soil loss annually per acre using "best management practices" including no-till (p. 55). A goal of CRP could be to enroll all such acres but, in the early 1990s, the CRP enrolled only 6 million of those acres. A second priority could be measures to improve water quality through, for example, filter strips.

A third priority is wildlife preservation. Given that the nation's wildlife is generally in favorable condition and that four-fifths of the nation's land is in range, forest and other uses more compatible with wildlife than is cropping, wildlife preservation does not appear to warrant the priority given to it in the new CRP. The wildlife priority causes reenrollment of land that was in the former CRP (because of wildlife established on such lands) rather than cost-effective targeting of soil erosion and water quality. Thus, instead of wildlife, a third priority could be to allow haying, grazing, recreation and other uses of CRP land consistent with soil conservation and water quality. Wildlife preservation could be achieved as a byproduct of soil conservation and water quality.

A phaseout of transition payments after year 2002 would pose difficult issues for environmental policy because the major incentives for participation in commodity programs and the attendant required Conservation Compliance (CC) program would be lost. CC has helped to protect the environment and is generally well received by participating farmers. Those farmers account for a high proportion of the nation's cropland. A strong case can be made to continue Conservation Compliance. The chief issue is whether to make it voluntary or mandatory.

The best case for a voluntary program is that it gives freedom for producers to participate or not participate—a tradition tracing to the very origins of conservation policy in agriculture. I expect a major political initiative to maintain transition payments after year 2002 in the name of "green payments" to induce Conservation Compliance. A problem is that such payments likely would be distributed proportional to past payments rather than targeting environmental problems.

An alternative is to require Conservation Compliance on all cropland. The case for requiring CC is as follows:

- Requiring CC reduces "taking." Off-site costs of soil erosion may average twice the on-site costs. An operator who allows erosion is "taking" from others by depositing sediment and chemicals in rivers, urban reservoirs and on "downstream" land. A mandatory CC would attempt to stop the producer from inappropriate behavior—taking from others.

- Modern best management practices, such as no-till or conservation tillage, allow much land formerly classified as highly erodible to be cropped at erosion rates below tolerance levels without loss of output or profit.

- The "stick" of CC is necessary to push the 18 million acres of cropland that cannot be cropped at erosion rates below tolerance levels into the CRP where farmers can be compensated for "taking."

- Federal budgets are too tight and alternative budget priorities too pressing to afford green payments distributed cost-ineffectively.

- Requiring compliance aligns government environmental procedures in agriculture with those in other industries.

International Trade Policy. The Uruguay Round provided reforms such as tariffication of nontariff barriers, but the task of trade liberalization awaits tariff reduction under the new round of multilateral trade negotiations slated to begin in 1999 under the auspices of the World Trade Organization. However, prospects at this writing appear dim for significant trade liberalization.

Several impediments retard movement to freer trade. One is that Americans are fatigued from outsourcing, downsizing, mergers, acquisitions, reengineering, reinventing and a host of other changes in recent years. Many want a breather from change. A second factor is that environmental, sanitary and phytosanitary concerns have taken new life in the face of real or imagined fears of mad cow disease and bioengineered crops and livestock. Populists, environmentalists and autarkists have exploited these public fears to promote protectionism.

Despite Congress' lack of enthusiasm, potential openings to freer trade are promising. The U.S. and other Western Hemisphere participants made an unofficial commitment to a Free Trade Area of the Americas (FTAA) by 2005. The 18 nations in the Asia-Pacific Economic Cooperation (APEC) forum pledged themselves to free trade by year 2010 for developed country members such as Australia, the U.S. and Japan, and by year 2020 for developing country members such as China, Indonesia and the Philippines. As with eight rounds of multilateral negotiations under the General Agreement on Tariffs and Trade, the FTAA and APEC implementation is

likely to founder over agriculture—prospects are much brighter for agreements covering nonagricultural commodities. Without special and early negotiations on agriculture, where the U.S. stands to gain through its strong comparative advantage, farm commodities seem destined to be left out of the FTAA and APEC.

Large gains in national and world income await freer trade; at issue is how to capture them given formidable problems listed above. Prospects are bright for further unilateral liberalization, as is apparent in agricultural policy legislation from New Zealand to the United States and the European Union. Much past protectionism has been the result of commodity program interventions in agriculture which governments around the world unilaterally are finding too costly and inequitable to justify maintaining. Governments liberalized before the Uruguay Round Agreement because protecting their domestic agriculture became too expensive. Commodity programs continue to provide openings for further unilateral trade liberalization.

Agricultural Research and Extension. Several observations influence our thinking about agricultural research policy:

- After growing 3-4 percent annually from 1960 to 1980, yearly growth of U.S. public agricultural research spending has slowed to less than 1 percent since that time (U.S. Department of Agriculture, p. 67).

- Growth in public funding since 1980 has been from state sources; federal funds stagnated.

- Public funding of agricultural research per unit of farm output has fallen approximately 1 percent per year since 1980.

- The share of public agricultural research outlays designed to reduce crop and livestock production costs and protect from diseases and pests fell from 57 percent in 1982 to 54 percent in 1992 (U.S. Department of Agriculture, p. 70). While the proportion of production research fell, the proportion of public agricultural research outlays for natural resources and the environment increased from 21 percent in 1982 to 25 percent in 1992. The latter outlays are useful, but they have come at the expense of production research to raise yields. The earlier supply-demand projections indicate that neglect of low cost sources of future output through research and extension could be a costly oversight.

- Lethargic public funding has been offset, fortunately, by private outlays for agricultural research which have doubled since 1960 and are larger than public outlays.

The best guess is that federal funding of agricultural research and extension will follow its past trajectory, but future food supply-demand prospects make the case for greater overall spending on research and extension. A case can be made for a greater share of research funding by the federal government. To see why, divide public research into four broad categories:

- Basic research, defined as having no immediate application.
- Applied research on national problems such as global warming.
- Applied research on regional problems.
- Applied research on local and state problems.

States can be expected to fund applied research where benefits are realized within the state—the fourth category. But, relatively little research can quality for that category—a sizable share of public research benefits spill across state lines to help producers and consumers elsewhere. In time, a large share of agricultural applied and basic research benefits accrue to consumers across the nation and the world. Because states cannot recoup their cost of research despite favorable national benefits relative to costs, states underinvest.

To illustrate how spillovers affect state incentives and discourage state funding, consider a typical discounted national benefit-cost ratio on agricultural research of 5:1; that is, $5.00 of benefits for each $1.00 of research investment. An average state, however, has only 2 percent of the nation's consumption and population, hence, it receives only about 2 percent of the benefits under the first two categories above. Thus, on average, a state experiences an uneconomic benefit-cost ratio of only 10 cents ($5.00 x 2 percent) on each unsupplemented dollar it spends on socially-beneficial research under the first and second categories.

Due to spillovers, the third category, as well as the first and second categories above, warrant considerable federal funding. Because of the importance of recognizing and addressing problems and opportunities unique to state and regional circumstances, research on the first three categories often is best performed by states using Hatch Act funds or other "revenue sharing" from the federal government to compensate for spillovers. Basic research is especially important to fund publicly because lack of ability to recoup benefits discourages private initiative. While the strongest case can be made for more federal funding of basic research, even much of that research may best be performed at land grant universities where closeness to issues, talents and facilities provide a comparative advantage.

Rural Development. Rural development is unlikely to become a priority for the federal government. Reasons include:

- Revived population growth in rural areas (U.S. Department of Agriculture, p. 13).
- Concerns motivated by global food supply-demand projections for preservation of farmland from urban or rural development.
- An absence of a solid intellectual and political base to commit federal funds to promote rural place prosperity.

Rhetoric notwithstanding, the federal government invests comparatively little in rural development. The FAIR Act established a $300 million Fund for Rural America to promote research and socioeconomic progress in rural areas—modest funding compared to commodity programs. Only 2 percent of public agricultural research expenditures address rural development (U.S. Department of Agriculture, p. 70).

Although *explicit* rural development programs are likely to continue to receive little funding, *implicit* "rural development" programs are likely to receive major federal assistance. These programs include favored tax treatment for mortgage interest, municipal bonds and capital gains. Such programs, along with federal subsidies to postal services, housing, and utilities such as electricity and water systems in rural areas, encourage urban sprawl into the country. Failure to fully include the externality or scarcity costs of greenhouse gas emissions, traffic congestion, dependence on foreign oil, and depletion of finite fossil fuel stocks in energy prices also encourages sprawl into the country. Worthy issues such as welfare reform, greater funding of common schools to compensate for larger spillover of education across state lines, and extension's effort to help rural areas get the most out of their resources may receive more attention from federal policymakers as interest wanes in farm commodity programs.

Conclusions

Agricultural policy reform embodied in the FAIR Act of 1996 represents a fundamental and likely lasting redirection of farm policy because directions conform to the agricultural paradigm shift. The intellectual base for traditional commodity programs has collapsed—agriculture is no longer a chronic low-return industry warranting income transfers from taxpayers or consumers. Educators can shift their focus from the technological treadmill and fixed asset theories of farm problems. Agriculture has not been on a technological treadmill running in place. A more appropriate metaphor is a technological distance runner who has covered an impressive number of miles to arrive at a preferred destination.

In an agriculture nearer long-term economic equilibrium, income per capita of people in agriculture will be near income per capita (return on resources) of nonfarmers. So, while agriculture in the past would not support sound national growth policies because it had to protect its own policy distortions, in the future it can be a more nearly unequivocal supporter of prudent national public policies—including policies for agriculture.

Sound public policy under the new policy paradigm emphasizes supplying public goods and correcting externalities. That means continued public support for environmental programs, basic research, education and information systems for economic efficiency. Equity is a more subjective issue, but support probably will continue for a minimum safety net of marketing loans, revenue or income insurance, and an emergency food reserve.

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The Realities of Agricultural Policy—A Producer Perspective

Eugene Paul
National Farmers Organization

Introduction

I want to address some of the realities of agricultural policy from my perspective as a diversified grain and livestock farmer, as well as from the National Farmers Organization's perspective. The National Farmers Organization represents independent producers nationwide in negotiating contracts and other terms of trade for grain, livestock and dairy. We are in the marketplace doing so on a daily basis. The specific purpose is to help independent producers extract the dollars they need to cashflow their operations, pay their expenses and earn a living from what they produce and sell.

My definition of an independent producer is one who, with his or her family, resides on their farm, provides day-to-day management, makes the decisions, controls the marketing of the production, whose capital is at risk, and who owns or wants to own that business.

"Who Will Control Agriculture?"

The choice of who will produce our food and fiber is coming down to the independent producers I described above or the industrialized vertically-integrated model. The broiler industry is one of the first examples. Current trends in hogs and cattle are the latest examples. There are signs of similar trends emerging in the dairy and grain industries.

In 1962, the Committee for Economic Development (CED), made up of prominent economists and business leaders, suggested a program to "permit and induce a large, rapid movement of resources, notably labor out of agriculture" (p. 25). A 1972 report by USDA executives cited the need to reduce labor inputs in agriculture even to the extent of not providing "employment opportunities sufficient to preserve the Nation's rural towns and communities" (U.S. House of Representatives, p. H5907).

In the 1970s, authors of the *Who Will Control Agriculture?* series warned that "...today the corporations themselves, and growing numbers of integrated or displaced farmers know that corporations can succeed in various parts of both field crop and livestock production" (University of Illinois, p. 1).

Economists and others seem to be good on predictions and short on solutions other than following the trends. We find ourselves at the crossroads of choice on

land and production ownership; what we want for our rural communities, schools, churches and businesses; the environment and consumer choice.

For over a century United States' farm policy has not been based on the reality of what is actually taking place both in agriculture and within the national economy. Rather, it is based on self-serving, contorted explanations of reality by various policy planners and implementers who have represented the concerns of an ever-narrowing community of economic interests.

What Hath Economic Policy Wrought And Do We Really Want It?

One of the hallmarks of U.S. agriculture over time has been diversification. Farmers had a variety of livestock and crops over which to spread their risk. Current trends in agriculture are away from diversification and emphasis on specialization and efficiency. We see declining farm numbers, increasing farm size and specialization. A result is farmers' increased risk and subjection to increased market volatility. More and more eggs are in one basket.

An example is U.S. coarse grain reserves have trended towards their lowest level in history in recent years. Not only has this brought risk to farmers, but it could also severely affect global markets and the U.S. role as a stable supplier of the world's grain (Raup, p. 17). One has to ask whether this is good policy.

A second question arises from the term farmers hear used over and over again by economists: "efficiency." Specifically, what constitutes efficiency? In agriculture, productive efficiency is the one most often used as the benchmark at the farm level. A very simplistic definition is input per unit of output. I am not implying that productive efficiency is not important; it is. But, I also believe it is only part of the total equation and I am not alone in this line of thinking. Marty Strange, formerly with the Center for Rural Affairs, in a discussion of efficiency, notes that "Our habit of measuring farm size by volume of output is largely analytical convenience" (Strange, p. 99). Paul Thompson, formerly Texas A&M Center for Biotechnology Policy director and now at Purdue University, aptly points out in making a case against efficiency as a measure that, "The point here is that though efficiency is a viable norm, it may not be particularly applicable to an ethical evaluation of the more contentious issues in agriculture and environmental policy" (Thompson, p. 110). What society and farmers want for agriculture may not fit the economic definitions and framework economists use for analysis.

What we find ourselves measuring with declining farm numbers is farm units dividing roughly the same amount of income dollars among fewer units, not increased income to agriculture as a whole. Dr. Stewart Smith, Joint Economic Committee of the U.S. Congress' senior economist, points out that, "In real terms from 1910 to 1990, the value of the marketing sector grew from $34.5 to $216.3 billion, the input sector

from $12.6 billion to $57.9 billion, while the farm sector shrank from $24.2 billion to $22.6 billion. The absolute values of the market sector and the input sector increased 627 percent and 460 percent respectively, while the value of the farm sector declined over the same time period. The industrial component of that system reaped the benefits of the increased growth in the agricultural system at the expense of the farmer" (Smith, p. 3). I see nothing in the current movement towards industrialization that would alter the direction of these trends unless fundamental changes are made in the way we think about agriculture. Today, the purchasing power of the prices received for many farm commodities is what it was 25 to 30 years ago. The bottom line is that even with increased farm size, which farmers interpret to equate with efficiency, they are no better off than they were and, in some cases, are worse off than two decades ago.

Markets

The traditional economic model used to analyze agriculture is the purely competitive model. The model characteristics include: many buyers and sellers, homogeneous products, no entry or exit barriers, no economic profits in the long run, diffused market power and no control over price. Some of these characteristics fit the farm side of the equation, but certainly not the markets farmers sell into. The traditional model allows for producer access to markets that are open, competitive and fair.

Farmers are asking some serious questions about what is open, competitive and fair. What is the correct price and who determines the price? I have found few instances when people or entities have the ability to dictate terms of trade including prices that they do not take full advantage of the opportunity to do so. The concentration of agricultural markets is in the hands of three or four buyers in most major commodities, ranging from 46 percent in broilers to over 72 percent in meat packing (Heffernan). It is hard to believe that price determination even resembles the competitive economic model.

At the same time, farmers face increasing price volatility at the whims of these firms. For instance, the recent recall of over 25 million pounds of hamburger by Hudson Foods should have shorted the availability in the market. Markets could have reacted favorably by rising. Instead, the market prices on livestock offered to farmers fell across the board out of fears over decreased demand. On a cull cow, prices dropped a minimum of $5 per cwt., or roughly $25-30 per head, strictly through what appears to be company mismanagement. Hudson Foods did not even directly buy livestock from farmers. The end result was an average loss per animal of $25-30 per head on 22,000-25,000 head of cull cows marketed per day, or $625,000 per day to producers nationwide (Graf).

In some agricultural sectors, markets are foreclosed to independent producers and are becoming totally integrated. Today, very few broiler producers have control

over much of the decision making on their farms. Options and independent decision making available to hog producers and cattle feeders are dwindling as the industrialization process continues, and as packers pursue their own captive supplies.

All this leads to increased risk and market volatility to which independent producers are subjected. How does the independent operator survive today? He or she is told that to survive, he or she must acquire a greater number of sows, cows or so many more acres of land and the corresponding debt that goes with it. In addition to that, today's buyers want quality, quantity and consistency which is beyond the reach of most independent producers.

Producers can help solve some of these demands simply by pooling their production together with a nationwide agricultural organization that will market their production for them, and securing greater market access and more competitive pricing than they can achieve individually. If they make use of this kind of mutual marketing, they can extract the dollars they need to cash flow their operations without assuming the debt load they would have operating on their own.

There are some risk management tools available. The National Farmers Organization works with its producer-members to utilize them. However, they will not entirely compensate for the full risk and market volatility or all the production costs they incur.

Economics has long touted the consumer as being supreme in feeding back through the system exactly what his or her wants and needs are. Supposedly, the system will respond to meeting those needs. What consumers ultimately get to buy is far removed from what leaves the farm gate and, in many cases, the price at the farm gate has little bearing on what consumers pay. A recent example of this is the Northeast Dairy Compact. Our members and other farmers had a good reminder of this. Before the Compact was even implemented, grocery stores raised the price of milk to consumers 20 cents per gallon.

With such concentration, not only is the farmer deprived of available competitive markets where commodities can be sold at competitive prices, but consumers are likewise forced to pay an increasingly quantitative and qualitative price for their food.

A.V. Krebs, Corporate Agribusiness Research Project director, cited the following incident that makes the point: "In southern California for example, the supermarket industry is dominated by three chains; Safeway Stores which recently bought up a remaining financial interest in Vons, Ralphs and Lucky Stores. In May of this year, Consumers Union surveyed 77 of these food markets in Los Angeles and Orange counties and found that specific gouging by supermarket chain retailers continues to be a primary cause of high milk prices in the area. The latest survey of

Louisiana milk prices showed an enormous range of prices Louisiana consumers pay for a gallon of milk. Prices varied from $2.19 per gallon at the low end to $3.39 per gallon at the high end, a difference of $1.80 (or 82 percent) per gallon.

"Large supermarket chains in the Los Angeles area continue to charge among the highest prices in the area—as much as $1.80 more for a gallon of milk than the local mom and pop grocers," Elisa Odabashian, Policy Analyst for Consumers Union and the author of the report, pointed out. Consumers Union, publisher of *Consumer Reports*, is an independent nonprofit testing and information organization serving only the consumer (Krebs).

"There is little competition on milk between the big chains, as evidenced through the lack of advertising and price-cutting....Milk retailers know that there is no reasonable-priced nutritional alternative to milk, particularly for the healthy growth of children, and that consumers will continue to buy it at almost any cost," Odagashian said.

Supermarkets move a great volume of milk and most of them process the milk themselves, driving down their costs considerably. The fact that supermarkets are charging so much more for a gallon of milk than many smaller markets runs counter to economic sense, and certainly to what most consumers expect. Retailers are taking advantage of consumers need for milk (Krebs)."

What is the Industrial Agricultural Model Record to Date?

Few people would argue the success of American agriculture. A long-standing policy is to provide consumers with an abundant supply of cheap food. Up until recently, independent producers have been the bulwark of that success. Now, that is being challenged by the industrialization process. We have to take the discussion of industrialized agriculture versus independent producers to a new level. It is not simply a matter of what is the trend, but what do we really want our agriculture to look like?

The industrial model's serious flaws are beginning to show. Independent producers have a positive impact on local communities in job creation, support of local business and the local tax base and family involvement in schools and the community.

The Kansas City Federal Reserve Bank report on the rural heartland uses the term "consolidation" to address the effects of industrialized agriculture. This type of agriculture purchases more inputs from nonlocal sources, and more of the profits from agricultural endeavors go to nonlocal owners of the firm. The report's authors are not overly optimistic about the prospects for good-paying professional jobs to replace what proprietary agriculture once supported. One of the report's authors,

Glen Pulver, notes that, "The notion that market efficiency should be the primary goal of rural policy is now more frequently challenged. Issues such as equity, environment, ethics and esthetics have surfaced as important justifications for intervention" (Federal Reserve Bank, p. 111).

Independent farm operators do not have an unblemished record when it comes to how they farm and the environment. They do stand in stark contrast to large industrialized units where manure spills, ground water contamination, odor problems, the amount of water pumped from aquifers, law suits and tens of thousands of dollars in fines seem to be a common occurrence. There have been some skirmishes between independent operators and local citizens over farming practices, but they are minute compared to what is happening now. All-out war is breaking out in any number of states over local citizens' right to control what goes on in their backyard through zoning versus pre-emption by state governments. Bulldozing through the "right to farm" over local citizens' concerns will not be good for agriculture in the long run.

Corporate industrialized farms have tried to gain competitive advantage by seeking tax incentives and other favors from local units of government to locate in a particular area. In one such case, financial difficulties and eventual reorganization under bankruptcy laws resulted in company officials seeking reduced interest rates on overdue taxes. The company operated at a loss continuously from 1991 to 1995, amassing total losses in 1995 alone of $71.1 million for nine months of operation. This was on top of $471 million in debts. What independent operator could do this and where does this enter into the efficiency equation (Center for Rural Affairs)?

Throughout rural America today, people, communities and farmers are being pitted against each other in a no-win situation. Between 1994 and the year 2005, the occupation with the highest job loss of 273,000 jobs is projected to be farming. Some of the fastest job growth is projected for cashiers, janitors, cleaners and guards (Saltzman). Michael Martin, University of Minnesota College of Agriculture, Food, and Environmental Sciences dean, noted recently that, "A complex set of social and demographic factors have given rise to a very steep decline in the number of young people entering the work force with "farm backgrounds." He cites the single most binding constraint to genuine progress will be a shortage of well-educated, adaptable professional managers (Martin, p. 20). What the research does not tell us is how many of the jobs related to agriculture will replace independent farm operators with a few "professional managers" and workers who sit up with the corporate cow or sow at bottom scale wages and few, if any, benefits?

The Role of Policy Makers and Extension

For some reason, discussion by policy makers, extensionists and others seems to center on issues that divert farmers' attention away from the real problems at hand. A natural is what free trade will offer U.S. farmers in the way of hope for more income. First, there was the advent of the General Agreement on Tariffs and Trade

(GATT). Then, there was the North American Free Trade Agreement (NAFTA). The benefits seem pretty slow in trickling down to farmers in the way of improved income.

The USDA recently reported the positive impact of NAFTA on U.S. agriculture. The report concluded NAFTA was a continuing success due to increased exports to both Canada and Mexico (U.S. Department of Agriculture). The report's shortcoming is that it only focuses on the dollar value of exports and not on loss of jobs, wages, the trade deficit, environmental laws and the peso crisis (Economic Policy Institute).

Let me illustrate my point. While many economists discuss trade in terms of being free from regulations and rules, in reality this could not be further from the truth. GATT is over 22,000 pages of rules governing trade. NAFTA follows a similar pattern.

What we see is farmers in one country played against farmers in another; namely U.S. farmers against farmers in Mexico or Canada. In 1996, while farmers in the United States—including myself—were taking one of the worst price beatings in history on cattle, a record 1.6 million head of Mexican feeder cattle came into this country. Our members in Green Bay, Wisconsin see truckload after truckload of Manitoba and Alberta cattle coming in for slaughter. From our contacts in Canada, those same processed cattle go back to Ontario to be sold there. Canadian cattle prices closely follow the U.S. market. U.S. and Canadian farmers were suffering under low prices. The only added value accrued to meat packers and retailers, showing that U.S. exports to Canada were up under NAFTA.

U.S. farmers are forced to compete with production, particularly from Mexico, that is produced without supporting the health and social systems that farmers in this country do. Without supporting education systems, most people in Mexico do not have to deal with child labor laws or minimum wage laws, and they do not have to deal with the same pesticide and herbicide regulations that U.S. farmers do. Yet, we are told we must compete with that production as it comes into this country.

In 1988, the National Farmers Organization and the National Farmers Union jointly commissioned a study, *The Economic Structure of Agriculture: Rhetoric Versus Reality*. The authors of that study, Daryll E. Ray and James S. Plaxico, Oklahoma State University professor and professor emeritus of agricultural economics, respectively, noted that, "based on the evidence to date, it appears that U.S. agricultural export volumes are at best very loosely related to U.S. prices. Thus it appears unlikely that, at least over the short run, aggressive pricing of export commodities will materially affect the volume of U.S. exports" (Ray and Plaxico, p. 25).

The National Farmers Organization is not opposed to trade as long as it is fair trade. We define fair trade as parties on both sides negotiating on equal terms and abiding by the same rules for production, health, the environment and other laws.

However, U.S. farmers should not hold their breath waiting for international trade to solve their problems. In all the discussion that surrounds this issue, the reality of what is happening out on farms across our country gets lost in the shuffle.

Access to Capital and the Role of Debt

Access to capital and the debt carried by independent operators as a substitute for adequate cashflow is an important factor in determining the future direction of U.S. agriculture. The industrialized sector uses stockholder and other risk capital which independent producers usually do not have access to, or choose not to use. What is hastening the industrialization process and trends towards captive supply is industrial agriculture's willingness to entice independent producers to access these capital sources. In return, many producers give up production and marketing decisions under contracts, while continuing to bear much of the risk. This whole scenario leads to the question of the future of new entrants into farming and how will they access capital.

The Future of University Extensionists and Researchers in the Industrial Model

Dr. Oran Hesterman of the W. K. Kellogg Foundation made a point at the 1996 American Society of Agronomy meetings. He noted that farmers possess considerable expertise already and farmers do not turn to extension as their primary source of information (Bird).

A 15-state Cooperative Extension poll showed that 69 percent of farmers agree that research and extension should address concerns of small- and medium-size farms. Many feel this is not happening. In September 1996, the National Farmers Organization, along with the National Farmers Union, the Center for Rural Affairs, the National Family Farm Coalition and the Sustainable Agriculture Coalition, advised Secretary of Agriculture Glickman that research and extension programs "must provide efficient and effective alternatives to the industrialization of agriculture." We pointed out that agricultural concentration, declining rates of farm entry, an aging farm population and low quality non-farm employment are tearing at the fabric of rural communities (National Farmers Organization, p. 1).

University extensionists and researchers face dwindling budgets and increased criticism. One example is an article in a statewide Wisconsin farm magazine. The article points to a range of problems from Extension's production of outdated agricultural information to actually accelerating the spread of industrial farming (Gutknecht).

As an independent producer, I think it is time for a new look at the future direction of agriculture. Researchers, extensionists and other professionals have a

lot to offer to the debate and future direction if they will take heed. All of us need to discuss what we really want for agriculture and our food system. But, we should not just stop with discussion—we must act.

Let's Start Getting It Right

Dr. Harold Breimyer, University of Missouri Extension economist emeritus, recently wrote, "Proprietary farmers are being displaced for one reason above all others: they do not fit into the corporate business pattern that is taking over an ever larger part of the U.S. economy."

He went on to note that we are drifting into what amounts to a reversion, a throwback, to the feudalism from which our European ancestors escaped to the "Colonies." Europe's feudalism was agrarian; that which is now emerging is industrial (Breimyer, p. 2). I agree.

Dr. Breimyer's colleague, University of Missouri economist, John Ikerd, asked the question, "Why should we stop promoting the industrial paradigm of farming? Because there is growing evidence it is obsolete and may well be doing more harm than good." He also wrote, "...Finally, universities need to stop because it fundamentally detracts from their fundamental purpose as an academic institution. That purpose is to build the productive capacity of people—to promote the public good by empowering people to be productive in the post-industrial century of human progress." Ikerd anticipated a response from the academic community that they do not promote industrialization or any other model. His self-critical answer was "But we do. The agricultural establishment, including agricultural colleges, may not intentionally promote industrialization, but it is none the less promoted by their attitudes and actions" (Ikerd, p. 50-52).

Ray and Plaxico cited four points in their study on the objectives of commodity programs as identified by Luther Tweeten. Even though the commodity programs have drastically changed since then, the points made are still valid in discussion of the future direction of agriculture. They are:

- Parity of earning power of farm with nonfarm income.
- Economic vitality of the farming industry to provide adequate supplies of quality food at reasonable cost for domestic and export needs.
- Preservation of the environment.
- Maintenance of the family farm structure (Ray and Plaxico, p. 34-35).

I would add a fifth point—rigorous enforcement of antitrust laws that are already on the books and authority granted for their use.

The challenge is for independent operators to be able to extract the dollars they need to cashflow their operations, pay the mortgage, buy health insurance and support their families in rural communities that have served us well. We need to look at ways to move the next generation of farmers into an agriculture that has afforded people like myself an opportunity to be independent operators with the freedom to make economic decisions unencumbered by the shadows and tentacles of corporate industrialized agriculture.

Dr. Breimyer summed up his argument for traditional proprietary agriculture as a question. He said "In the business structure now emerging we will still be well fed. But in the dispossession—the lowering of status—of our highly educated cadre of responsible farmers, and in being enveloped in corporate bureaucracy, what is gained?" (Breimyer, p. 2). We all bear that responsibility, and independent farm operators nationwide who are National Farmers Organization members take it very seriously. That is what we are all about.

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Industrialization of Agriculture

Opening Remarks by the Moderator

James C. Webster
The Webster Agricultural Letter

I think it was Don Paarlberg who first made me aware of the concept that has come to be known as industrialization. It is probably a term that describes one facet of a process that is as old as humankind. It is the process of constant change.

Most of us in this room can trace who we are to some failure of agriculture. Somewhere in the past there was a failure of policy, a failure of management, a failure of something in agriculture. I know I can say this. The fact that two sets of great-grandparents—one on my mother's side and one on my father's side—found themselves in Nebraska in the 1850s was due to failures in agriculture. Specifically, there was a failure of a potato crop in Ireland and failure of an agricultural policy set in London.

I recall the first popular use of the term "industrialization" about a decade ago. I believe it was in an article in *Choices* magazine by Tom Urban and Lynn Daft. But, the concept has certainly been around for a lot of years. Certainly, over the last half century. As we heard yesterday in the debate over the virtues of the small independent operator verses the big impersonal corporation, far too frequently, I submit, the debate has been posed as either/or. You are either for the little guy or you are for unchecked efficiency, and nothing in between. My view is that this is not only a false policy choice; it is a destructive choice. My thesis is that as a policy matter, the United States and, indeed, the world cannot afford to have just one of those. I think we need both.

My own regret is that we, as a society, have not collectively faced up to the choice and honestly considered the consequences as fully as we should. That is, of course, because it has been too difficult for political leaders to do so. I think we need to recognize the importance of both an efficient world class food production system on the one hand, and the need to maintain and enhance the quality of life in rural areas on the other. I think these goals need not be mutually exclusive. So, there is a challenge to political leaders and to policy researchers.

The discussion today will first include remarks by Terry Barr and Ed McMillan. Afterward, Marvin Duncan and I will join Terry and Ed and entertain questions from the audience.

Industrialization of Agriculture or A Realignment of the Food and Agricultural System?

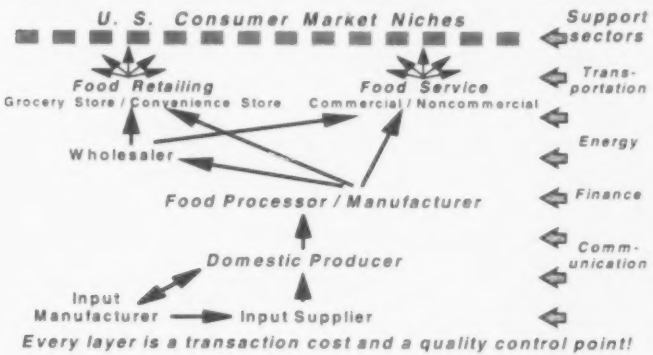
Terry N. Barr
National Council of Farmer Cooperatives

When the topic of industrialization in agriculture comes up, I tend to come at it from a little different direction. Perhaps this is due to my background with regard to cooperatives.

I am not a big fan of the term *industrialization*, because I think it creates a mind set. As soon as an audience sees the term, their minds close up, almost immediately. Any dialogue is over. What I really like to focus on is a realignment of the food and agricultural system. In other words, I think it is very important, when talking about either business or policy, that you have a very basic understanding of what is driving this change. It is easy to look at the pork industry and conclude that it is an example of industrialization. That misses the point in terms of what is really going on in that industry. In terms of the food system, industrialization is occurring in a lot of other industries besides pork, but probably in a much more subtle way than what we are seeing in the pork industry.

The agricultural and food system is in transition. While there are many ways to depict the linkages within the system, Figure 1 provides many insights into the transitions occurring in the system. In addition to noting the different segments, the statement at the bottom of Figure 1 is crucial to appreciating the roles in the system. Every participant in the system is a transaction cost and a potential quality control loss. Equally important is to recognize how changes in the support sector industries are altering the dynamics of the exchange process within the food system.

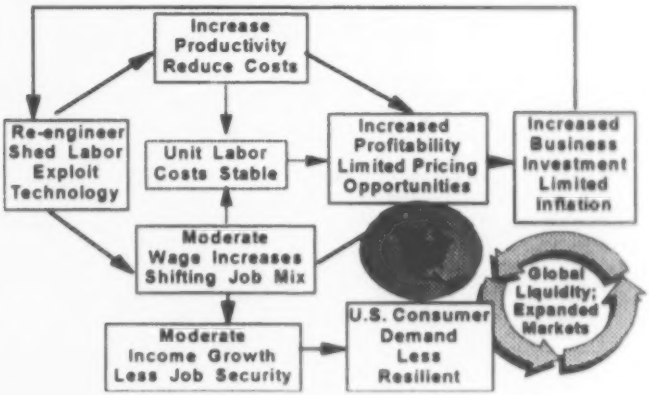
Figure 1. The U. S. Food System In Transition.



The Realignment of the Agricultural and Food System

Re-engineering Systems. I believe some of the changes in the agricultural and food system are a result of the fact that the economy, since the 1990s expansion, has been driven by re-engineering systems (Figure 2). If you analyze the 1990s expansion, you will recall that the first two or three years of the expansion were characterized as a jobless recovery. In other words, it was not generating any net additional employment. Business was downsizing, restructuring, looking at systems and taking them completely apart to restructure the whole network. I believe the restructuring process has carried over into the food system as well. Agricultural and food companies are now taking another look at where they are going to be and how they are going to position themselves.

Figure 2. The 1990 Economic Expansion.


Increase Productivity Reduce Costs
Re-engineer Shed Labor Exploit Technology
Unit Labor Costs Stable
Increased Profitability Limited Pricing Opportunities
Increased Business Investment Limited Inflation
Moderate Wage Increases Shifting Job Mix
Global Liquidity; Expanded Markets
Moderate Income Growth Less Job Security
U.S. Consumer Demand Less Resilient

Catalysts for Change. The realignment of the food system is a product of numerous catalysts which have emerged rapidly in an environment of re-engineering and globalization. These catalysts are:

- U.S. market demographics and preferences
- Structural characteristics of industry segments
- Technology
- Government policy / regulation / deregulation
- Evolution of global market dynamics

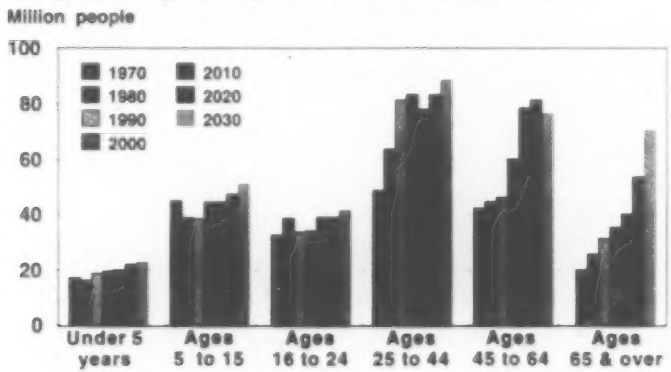
The pace of change has accelerated as everyone seeks to reappraise what has worked in the past and realign it with the competitive prospects in a global economy. As you assess the various catalysts it is crucial to assess their interdependency. It is the unique combination of catalysts which is giving rise to the rapid restructuring.

U.S. Market Demographics and Preferences

The U.S. market will be increasingly driven by the unique consumption patterns of its consumer. Basic population growth drove consumer markets for many years. But, in the coming decades, the rate of population growth will slow (Figure 3) and the consumer will be increasingly selective in a very competitive marketplace. The new market will be shaped by a number of factors:

- Demographics—age and population growth.
- More single person households.
- More two wage-earner families.
- Smaller families.
- Increased ethnic populations.
- More concerns about health, food safety, etcetera.
- More emphasis on convenience.
- More away-from home eating.

Figure 3. Age Composition of U. S. Population.



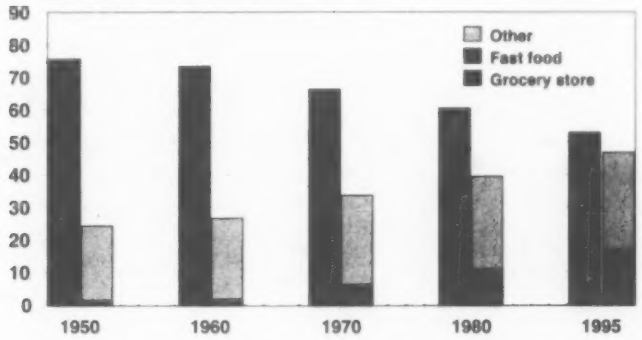
While each of these factors warrents further discussion, let me focus on the first and last to illustrate the magnitude of the challenge.

Importance of Baby Boomers. These changes have carried over into agriculture in a much more dramatic way. We are beginning to see the effects of the Baby Boomers getting into the rocking chairs. We are already beginning to see that in the financial markets. We are seeing it in just about every market you want to talk about. When we look ahead to the next 30 years, the fastest growing age groups in terms of numbers of people are over 45 or, particularly, over 65. There is not a food company out there that is not looking at it and saying, "I have to change my product mix." McDonald's is struggling heartily because there are no kids in the back of the car anymore to tell their parents to pull into McDonald's. The question for McDonald's is how do you keep the people you had when they were younger, and so forth?

The strategy works all the way back to the agricultural side. It determines the kinds of products they want, how they are going to have them delivered and where. I expect very soon that you are going to see McDonald's following the Marriott example of trying to figure out how you put a restaurant into retirement communities. How do you access that group with a different menu? The change in consumer preferences is much more dramatic than people understand at this point in time. If you look at the numbers, in 1980 we were introducing about 2,000 new food products. Today, we introduce about 15,000 new products a year. The food industry is looking for all kinds of new ways to approach the emerging market. It is a very affluent market. The Baby Boomers will probably be the most affluent folks in rocking chairs that we have ever had in this country.

Increasing Importance of Away-from-Home Consumption. Consumers spend nearly half their food dollar for away-from-home consumption (Figure 4). This changes the nature of the food they desire and the demands that this industry segment will

Figure 4. Eating Preferences Are Reshaping Food Expenditure Patterns.
Percent of total food expenditures



place on production agriculture. With the Baby Boomers increasingly dominating the consumption shifts, it is logical to expect away-from-home eating to dominate in the next millennium.

Structural Characteristics of Industry Segments

In food retailing, the grocery store chains are a dominant player, accounting for over two-thirds of all sales (Table 1). However, it is the local chains that seem to be emerging as significant players in adapting marketing strategies to limited regional areas. At the same time, the distinction between food purchased for at-home consumption and away-from-home consumption is blurring (Figure 5). Over 80 percent of supermarkets now have delicatessens which are marketing prepared food products for immediate consumption away-from-home. This trend will accelerate in coming years.

Table 1. Share of Sales of Grocery Store Chains.

		Types of Chains			
Year	All Chains	National	Regional/ Sectional	Local	Other*
			percent		
1948	34.5	18.7	7.0	5.6	3.2
1958	46.7	20.9	13.2	11.1	1.5
1967	51.4	16.2	15.1	13.4	7
1977	58.7	15.4	21.2	14.5	7.6
1987	63.5	13.3	19.5	23.5	7.2
1994	64.7				

* Other includes chains of convenience stores and grocery stores smaller than supermarkets.

As consumer preferences move increasingly to the away-from-home market, the concentration of sales in that marketplace becomes of greater concern (Figure 6). Establishing linkages through the food system will require relationships in this market segment. Four firms have 50 percent of the restaurant sales in this country. If you do not do business with McDonald's, Kentucky Fried Chicken, Burger King or Wendy's, then you are going to have a problem in terms of your product. As these alliances are created, it raises questions about what the relevance is going to be in the open market. Will there be a viable open commodity market per se in many of these commodity areas?

Figure 5. Delicatessen Growth in Supermarkets.

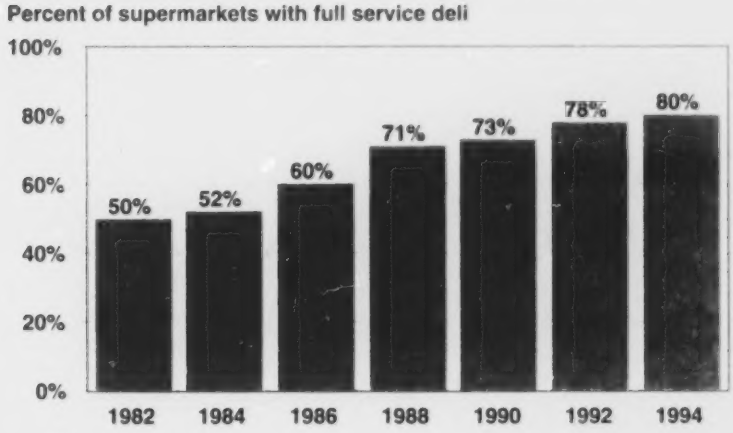


Figure 6. Restaurant Chains Market Share, 1995.

Sandwich		
McDonald's*	34%	61%
Burger King*	17%	
Taco Bell*	10%	
Pizza		
Pizza Hut*	48%	84%
Little Caesar's	18%	
Domino's	18%	
Chicken		
KFC	58%	80%
Boston Market	11%	
Popeye's	11%	

The top four firms in U.S. sales accounted for 48% of total sales !*

1. *McDonald's*
2. *Pepsico, Inc.*
   - *Pizza Hut*
   - *Taco Bell*
   - *KFC*
3. *Grand Metropolitan*
   - *Burger King*
4. *Wendy's Int'l*

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Structure of the Input Industries. The structures of agricultural-related industries are also undergoing a transformation to align with domestic market shifts and emerging global opportunities (Figure 7).

Figure 7. Structure of Input Industries.

- Feed
  - Integrated livestock consolidates industry
- Fertilizer
  - Consolidation has already occurred; capacity growing; global competition
- Seed
  - Integration of crop protectants and seed genetics will reduce number of firms to only 2 to 4 ???
- Crop protectants
  - Increasing service-related aspects as certification to food system gains value!

Technology

Changes in Technology. At the same time, you have a change in technology. We have the emergence of a product technology, both production technology and biotechnology, that allows the enhancement of selected product characteristics. This is a development consistent with the need to satisfy a consumer who is increasingly seeking selected traits (Figure 8). Now you can enhance those traits most desired.

Figure 8. Changing Role of Technology.

Product Technology

- ✓ Enhances productivity and/or reduces cost (traditional role)
- ✓ Enhances selected product traits or characteristics
- ✓ Creates new products (Food safety / public perception issues will have to be faced)

Information Technology

- ✓ Enhances ability to analyze, assess and communicate information to facilitate planning and coordination. Transforming data to information to decisions will be a key factor in survival!

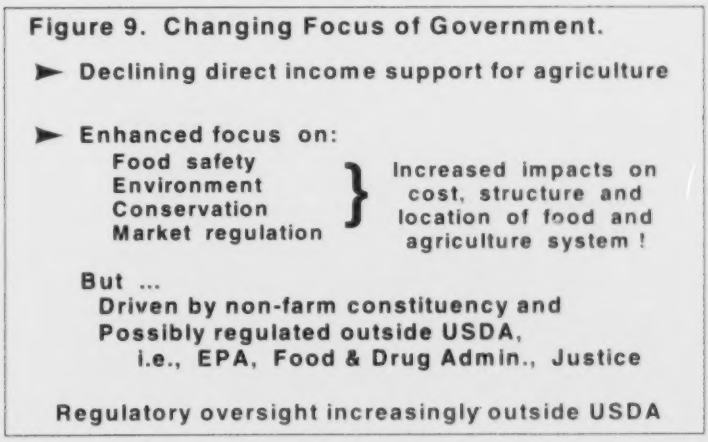
Probably equally important and the least appreciated change is in information technology. What is happening in information technology, with computers, is the ability to coordinate systems in a much more sophisticated way than has ever before been possible. You now have the capability to link the consumer preference directly with the production agriculture. Wal-Mart can have their checkout counters link back to their dairies that provide milk. They can know exactly how much milk they need to flow through the system and have a contractual arrangement to do that. The system is beginning to get tighter and tighter. That does not mean it is integrated, but it certainly is much more effectively coordinated than ever before. That opens all kinds of possibilities in terms of structural relationships. This is not only with the away-from-home segment, but also with the grocery store, right up and down the line in terms of coordinating the system.

At the same time that all of this is going on, you have major changes in the input industries. Many of the changes are regarding biotechnology, which is changing the seed and chemical industry very dramatically. Seed agents now need to be biotechnological consultants. They are selling a whole farm system—not just seed. That is the trend in this industry. There may be very few companies involved in that. The nature of the relationship with regard to the input side is changing.

Government Policy / Regulation / Deregulation

Changing Focus of Government. Deregulation and regulation are important issues with regard to agriculture, particularly farm policy. In general, the trend in government policy is to provide less direct income support and more regulatory oversight (Figure 9). In terms of regulation, the areas of food safety, conservation and the environment will place more and more burdens on all facets of the food system. This type of regulation will reshape the location of the agricultural industry

Figure 9. Changing Focus of Government.


► Declining direct income support for agriculture
► Enhanced focus on:
Food safety
Environment
Conservation
Market regulation
Increased impacts on cost, structure and location of food and agriculture system !
But ...
Driven by non-farm constituency and
Possibly regulated outside USDA,
i.e., EPA, Food & Drug Admin., Justice
Regulatory oversight increasingly outside USDA

in this country. It should be added that oversight will increasingly occur outside of the U.S. Department of Agriculture.

Many of the most significant changes only come into play when markets are attempting to adjust to large supplies. Since the passage of the Federal Agriculture Improvement and Reform Act (FAIR), markets have been focused on allocating small supplies. Planting flexibility and the lack of price support without acreage programs and reserves will be tested in the future (Figure 10).

Figure 10. Federal Agriculture Improvement and Reform (FAIR) Act.

- ✓ **Production Flexibility Contracts (7 years)**
  Fixed payments irrespective of market prices; payments phased out over 7 years; option to plant any program crop or idle;
- ✓ **Maximum fixed marketing loan rates**
- ✓ **Eliminates acreage reduction authorities**
- ✓ **Suspends farmer-owned grain reserve**
- ✓ **Reduces payment limit**
- ✓ **Conservation Reserve Program reauthorized**
- ✓ **Environmental quality programs consolidated**
- ✓ **Dairy price support program eliminated in 2000**
- ✓ **Reduces support for sugar**

Untested!

The most prominent examples of deregulation are in transportation, banking, telecommunications and energy (Figure 11). In the banking industry, the fundamental change of allowing banks to acquire securities firms or vice versa is changing the nature of how money flows. In this country, it is going to change the nature of how agriculture gets its money for a lot of its operations. Deregulation in the transportation side has impacts on agriculture. The consolidations occurring in the railroad industry are changing some of the economics in the grain industry.

Deregulation in electric power also has an impact. We have a number of our cooperatives who have joined together to collectively buy electric power from the power facilities. The ability to acquire power off the grid changes the dynamics. Low cost power, which is a big advantage in the Pacific Northwest, may not be such a big advantage when you start marketing that nationwide. This changes the dynamics of where agriculture is going to be positioned. The structural changes in these industries will change the business partners you will have in the future food system. The owning, leasing, sourcing and purchasing of these support services will change dramatically over the next decade.

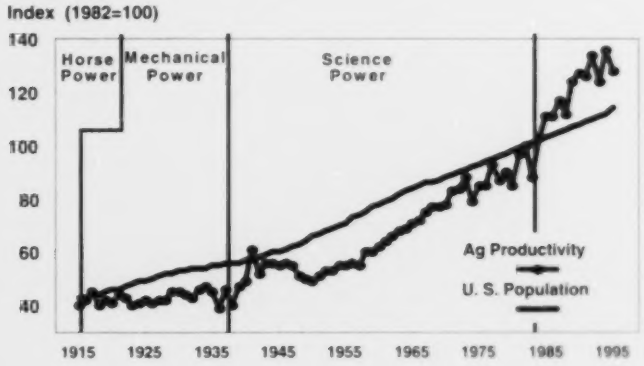
Figure 11. Deregulation Is Transforming the Structure of Major Support Industries !

- Transportation
  - Railroad mergers altering cost / availability
- Financial markets
  - Consolidation of banking / securities and evolution of mutual funds industry
- Telecommunications
  - Control of communication systems and linkages such as Internet, digital communication, etc.
- Energy
  - Electric power industry being transformed

Evolution of Global Market Dynamics

Ultimately, in the absence of supply controls, the market will determine the amount of resources that will remain in agriculture. The amount of resources required in the future will be largely determined by the growth in the export markets (Figure 12). Continued gains in agricultural productivity will increasingly outstrip U.S. population increases. The resulting production must either be exported or limited by resource removal.

Figure 12. U. S. Agricultural Productivity & Population.



The nature of the export market has also changed dramatically in terms of types of commodities. The growth in bulk commodities that dominated the market in the 1970s has now stagnated and the growth engine has become the value-added products (Figure 13). The emerging markets will not be the government-to-government bulk commodity markets that characterized the 1970s export experience. These new markets will require new product development and aggressive marketing strategies to establish a presence (Figure 14).

Figure 13. World Agricultural Exports by Type.
(More value-added and less government-to-government)

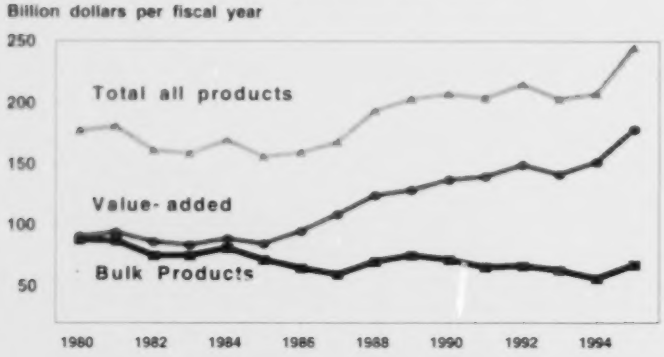
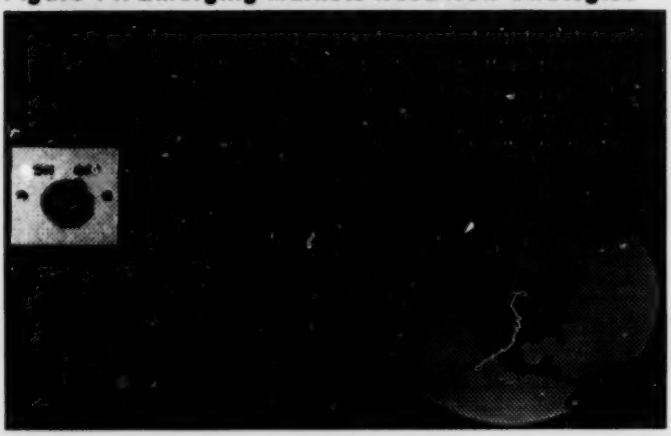


Figure 14. Emerging Markets Need New Strategies



The New Realities

Any strategy developed to face the challenges of the new emerging food system must take into account the new realities of the food system. These realities are:

- Less government support and increasing regulation in food safety and the environment will alter cost structure/location of food and agricultural activities.

- Consumers will increasingly segment into distinct market niches seeking selected product characteristics.

- Farmers will be paid for product characteristics, not commodities. Value will increasingly be added off the farm.

- An increasing share of the market will become coordinated via contracts, alliances, etcetera. Consequently, the balance of the market will become more volatile.

- Technology will be the driving force in not only what will be produced, but how and when; it will dictate organization of process from inputs to the consumer.

- Profitability in the food system will increasingly be determined by linkages between sectors rather than within sector efficiency.

- Foreign market developments will have increasingly larger impacts on pricing in the domestic marketplace even if you are not a direct exporter. The value of the international presence will increase.

The technological revolution is accelerating the integration of the food system through mergers, acquisitions, alliances and joint ventures. These relationships are being developed both horizontally and vertically, and the ability to coordinate such arrangements will facilitate positioning in the system (Figure 15).

Some industries have a long history of contracting and vertical integration (Table 2). With the decline in direct government support, many sectors will be exposed to greater price and income risk. This increasing risk will reinforce the pressures for consolidation that already exist within the rapidly changing food system structure. Changes in the hog industry may be a barometer of change.

Figure 15. U.S. Food System InTransition.

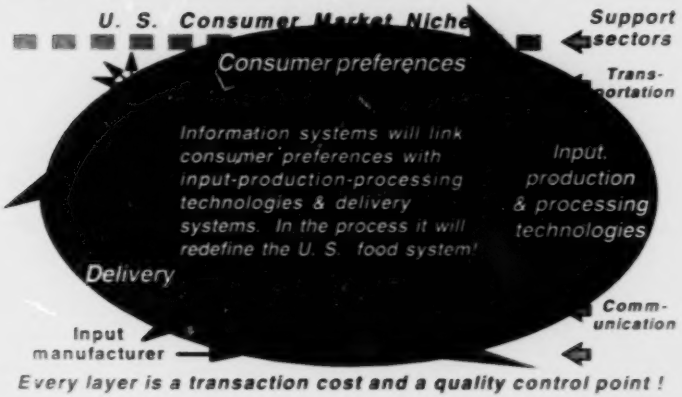

U. S. Consumer Market Niche
Support sectors
Consumer preferences
Trans-portation
Information systems will link consumer preferences with input-production-processing technologies & delivery systems. In the process it will redefine the U. S. food system!
Input, production & processing technologies
Delivery
Comm-unication
Input manufacturer
Every layer is a transaction cost and a quality control point !

Table 2. Contracting / Integration by Commodity.

	1970	1990
	- - - - percent - - - -	
Livestock		
Broilers	99	100
Mfg. milk	26	26
Fluid milk	95	95
Hogs	2	21
Field crops		
Food grains	3	8
Feed grains	2	8
Cotton	12	12
Specialty crops		
Proc. vegetables	95	98
Fresh vegetables	51	65
Citrus	85	100
Other fruit	40	60

Do Consumer Preferences, Technology and Government Policies and Regulation Impact Industry Structure ?

Cost comparisons of low technology and high technology pork production systems have clearly shown the economies of scale of the new larger systems (Table 3). At the same time, the displacement of existing systems will also be governed by the fact that many of their indirect costs (buildings, equipment, etcetera) are already paid off and are not a factor until replacement is required.

Table 3. Cost of Production Comparisons by Pork Production Systems.

Cost Factors	150-sow low tech	150-sow high tech	300-sow high tech	1,200-sow high tech*
	dollars per hundredweight			
Total Direct	30.06	27.70	27.70	26.12
Total Feed	22.62	24.13	24.13	26.39
Total Indirect	22.55	17.25	15.26	12.17
Equipment	9.27	6.84	5.66	4.04
Buildings	3.70	2.86	2.67	2.67
Labor	5.70	4.11	3.86	2.06
Total Costs	52.61	44.95	42.96	38.29

* Marketing arrangements may provide price advantages of $0.50 to $1.00 cwt. to larger units!

Source: Purdue University

A Look at the Future

The traditional model for commodity production from the food processing sector to the retail consumer (Figure 16) has now given way to significantly different structural relationships. Production is increasingly focused on product characteristics embedded in genetics (Figure 17). This allows processing to be more narrowly structured to handle the narrower range of commodity characteristics. The channels to the consumer are defined earlier in the process.

In the future, the product will be even more refined at the production level with the processing channels even more uniquely defined from raw product to selected consumer niche markets (Figure 18). The realignment will reach throughout the input industries as well. In the future, the input bundling will become increasingly important

Figure 16. Traditional Structure of U.S. Food System.

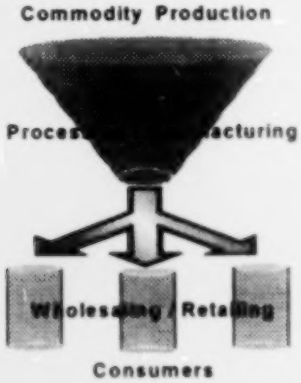


Figure 17. Consumer-Dictated U.S. Food System.

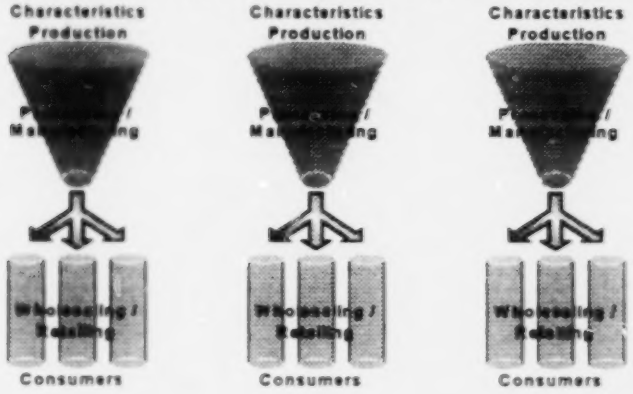


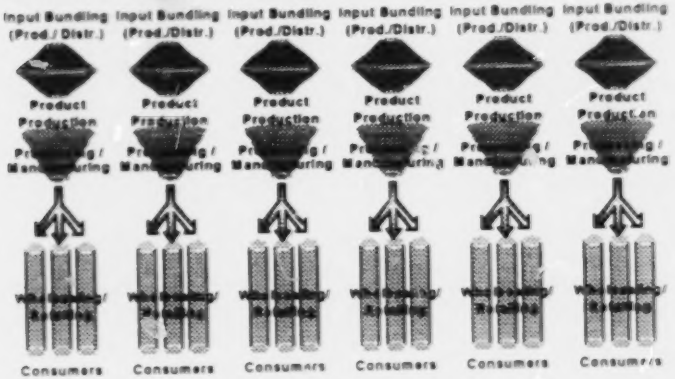
Figure 18. Consumer May Dictate Production System.

in serving very uniquely defined product channels. Bundles will need to be shaped around the product and marketing channels that are increasingly unique (Figure 19).

These events, I think, are all kind of coming together in the 1990s. While these trends may result in greater concentration, I think we are also going to create more opportunities for the niche linkages—markets that can be satisfied in local or regional areas, through smaller producers and so forth. Producers must have access to technology and have the capability to deliver the product.

In summary, I envision a future in agriculture different than today. We are going to see less government with more regulation. Consumer markets are going to

Figure 19. Consumer May Dictate Structure of Production and Input System



get increasingly segmented in this country. We will have a very affluent market. People are going to be very selective about what they want in their products and they are going to want to trace it all the way back to the raw product side.

Consumers are going to demand certification of what has been applied to these crops right through the system—particularly when you start talking about a more elderly population with more food safety concerns. You are going to see more and more linkages all the way back—so that the deliverer of a product can assure his customers of what exactly they received. Relationships will built up and down the system. Farmers are going to be paid for characteristics, not commodities. The last thing you want to be is a producer just throwing generic commodities onto the marketplace. It is going to be a highly volatile market. Technology is not only going to drive *what* we produce, but *how* we produce it.

I think the realignment is simply a fundamental shift in what is going on in agriculture. Profitability in the food system is going to depend on who you have linkages with. It may not be good enough to be the most efficient producer of something. It may be more important that you have the best business relationship going up and down the system. I think that is one issue producers have to focus on very seriously.

Lastly, foreign market developments are going to have more and more impacts on agriculture. For instance, the meat industry is now evolving to a point where we are shipping enough meat in total that if something happens in the international market, it will back up very quickly into the domestic market. We are already exporting about 20 percent of our broilers, and we are approaching perhaps 10 percent in pork. As that dependency creates more and more opportunities, it is going to create more and more risks in the domestic side which will have to be dealt with.

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Being in the international market is going to be more and more important. When the domestic economy slows down, those people that are positioned internationally and have profits flowing to them from the international market will be in a much better position to advance themselves in this food system as we go forward.

INDUSTRIALIZATION: A VIEW FROM AGRIBUSINESS

Ed McMillan
Agri Business Group

Introduction

Today's large commercial farm—anywhere in the world—would be almost unrecognizable to the average farmer of the last century. At the same time, the success and growth of these large farms is not due to inherited land, capital or status but, rather, is the product of judicious use of publicly available technology. In short, today's farmer has been able to select and use new products and new technologies to "industrialize" production, capitalizing on economies of scale to improve production, management and marketing systems.

Yet, there are several fundamental differences between the apparent "industrialization" of agriculture and the industrialization associated with manufacturing methods of mass production. These fundamental differences arise from the heart of the same factors that drive the use of industrialized production practices. What are these drivers of change? How will they form and inform the very unique type of industrialization we are likely to see in agriculture?

Drivers of Change

The global expansion of population and improved standard of living in developing countries will result in increased demand for both agricultural commodities and processed food products. Countries such as India have shown that the "green revolution" is not enough to overcome starvation. Production must be supported by a free-market economy, consumer earnings and a food distribution and marketing infrastructure.

Thus, "industrialization" of agriculture should include the infrastructures needed for input delivery, financing, commodity marketing, processing and food distribution. When people's living standard improves, they improve their diet: fruits and vegetables, eggs and milk products, fish and poultry, and red meat. As the standard of living improves further, they quickly differentiate quality of food products. In Romania, for example, much fruit, vegetables and meat are currently imported, although Romania until the 1980s had a highly industrialized state-farming system that provided these products for national consumption and for export within the Eastern Bloc. Because this "industrialization" of production had quantity—not quality—as its primary goal, many farms and processing facilities, even if privately owned, could not produce food products of comparable quality to Western imports.

"Industrialization" should, therefore, include quality specifications and quality control.

U.S. access to global markets is improving through fairer trade policies, world trade agreements and relatively stable currency markets. There are markets hungry for the production quality and quantity provided by our unique brand of entrepreneurial industrialization—and "fast track" legislation would help us cultivate them.

Technology innovation has begun to result in a rapid stream of new products, most of which are not scale-neutral. For example, new transgenic crop protection technologies allow fewer trips across the field for cultivation or insect control. New genetic technologies are beginning to allow the production of more and more consistent quality pork, beef and poultry. These technologies encourage the growth of traditional farms, contracting and vertical coordination of production.

The government has shifted its role from an *in loco parentis* support of the family farm to systematizing and regulating input safety, patent protection for new technology, and encouragement of free market dynamics through global trade and tariff agreements. As a result, the most efficient will thrive—the less efficient will retire.

The idea of "designer crops" now seems to be a workable concept. Such identity-preserved crops offer both opportunities and challenges.

Implications of Change

Over the long term, industrialized methods of production will increasingly relocate food and fiber productions. Traditionally, food and fiber were produced close to the source of inputs (i.e., feed grains or cotton fiber) or close to consumers. When you go home tonight, look at the label of the shirt you are wearing—are any of you wearing cotton shirts made in the United States? Yet, we are one of the largest producers of high quality cotton fiber in the world. Our textile processing has not kept pace with textile quality demands—a factor exacerbated by the wide availability of cheap labor for textile and clothing mills in many developing countries. Corn may always be grown in Iowa, but it is not all fed there any more. Because of the reduced environmental impact, one of the largest new hog operations in the world is in a remote valley in Utah, far from corn and far from people. Some of the largest new dairies are being built in New Mexico, again far from markets and far from feed input sources. What if this trend expanded to a global scale? Do we want to be the supplier to the world of *quantity* commodities? How long can that advantage last?

Industrialized production methods have allowed us to grow more beans/acre than a slash-and-burn Brazilian farmer—surely we can refine these methods to grow

different beans, with defined quality characteristics, and process them here in our own food and feed industry.

Companies investing in technology today, such as Monsanto, ADM, Pioneer Hi-Bred, etc., all play in a world marketplace. They must recoup the maximum return on today's research in order to fund tomorrow's discoveries. Thus, the technology that fuels our own increased productivity will be exported—often along with the industrialized production and processing systems that transform technology into profit. We still have two critical advantages: the entrepreneurial spirit of the farmer, and the technology transfer systems that support him. We must find ways to strengthen these advantages.

Developing countries are increasingly able to feed their population. Yet, they use feed grains to generate hard currency rather than increase the standard of living. Commodities have become a political tool. As production increases from these countries, they can decrease stability in the world market.

Today's successful farmer is often involved in all aspects of his business—production, management, financing, labor sourcing and marketing. The growth made possible by industrialized production will stretch their time and skills as managers, not just producers. Although information technology holds the promise of providing systems and decision-making support, that support is not yet there for most producers. They will increasingly be faced with producing quantity and quality efficiently, be challenged to find qualified labor and develop managerial skills that allow timely execution of every aspect of the operation.

One of the sources of management support will be contractors and professional farm managers. Buying groups, production cooperatives and expanded family corporations will all grow as the producers search for people, production, technology and information management functions to complement their own. Increased coordination, from production through processing to food merchandising, will grow as much from the farmer's need for expanded services as from the processor's need for quality and efficiency.

Issues

Industrialization of agriculture will pursue a unique path—a path charted by the founding spirit of entrepreneurial agriculture and shaped by the adoption of technology and our response, as an industry, to the increased demands for quality and consumer orientation from a world marketplace. As we meet these challenges together, we will face a variety of issues.

We must increase yield to meet demand and efficiency to meet profit goals—yet, we must do so in environmentally sustainable ways. We will indeed have to

produce a better end product more cheaply than farmers in parts of the world where production quantity is more important than environmental quality.

We must approach the funding of new technology and technology transfer strategically. These technologies increasingly come from the private sector. We need unbiased and expert information and decision-making support to evaluate, select and implement new technologies. If public institutions abdicate this responsibility or it is removed from them, we are in danger of losing our most valuable asset—an educated producer.

We must begin to study, encourage and develop brand identity markets within commodities. We are in the remarkable position of creating a market we will live by or suffer from for several generations. It behooves us to make sure that the concept of "branded" agricultural products always includes the concepts of productivity, sustainability, stewardship and quality.

As leaders and consultants to agribusiness, we must encourage the evaluation and upgrading of our market infrastructure. Any farmer worth his salt could raise an identity-preserved crop to processor specifications today, but could he or she ship it? Store it? The "industrialization" of agriculture has worked because it rests on the shoulders of a highly entrepreneurial producer. Technology will help him—will our infrastructure limit him?

Summary

The industrialization of American farming is not a landscape of corporations, employees, time clocks and management control. We have ample evidence from Eastern Europe that this brand of industrialization produces as many inefficiencies as efficiencies, and quantity only at the cost of quality. We have an opportunity to lead the world in the adoption of technology for increased quality, productivity and profitability—farm by farm, product by product. We must cherry-pick the best in systems and efficiencies from traditional industrialization. Our creative energies can then be channeled to uncover models of coordinated production and marketing; models that diffuse information and technology.

Industrialization of Agriculture Roundtable Discussion

Question and Comment from a Member of the Audience. *I think the industrialization discussion as phrased here is incorrectly phrased. I do not think the question is whether big is bad and small is beautiful, but whether or not open markets will dominate the coordination of the food system. I think the question is whether administrative mechanisms internal to firms will dominate the coordination of the food system, and what the public role is in that? I think that part of the public problem is that the grades and standards markets work and they work well. I believe the strong vertical coordination and integration that we are seeing is the result of market failure to produce the standards that are required by the new processing techniques. If those grades and standards were more appropriate, there would be better functioning markets. What are your reactions to these questions and statements?*

Response by Ed McMillan. First of all, I have to admit that I have skepticism about the government's ability to develop standards that reflect the true consumer's needs. But, I do realize that is the role of government—to try to accomplish that. Unfortunately, political influences sometimes override logic in the process.

I think an important issue is that the consumer is heard through the process, whether it is a domestic consumer or a world consumer. Obviously, at this point, our consumers here are more discriminating than the typical world consumer. I believe that is the beginning of the process. If the consumers' expectations are heard; if there is a rational system of trying to develop quality standards to meet those needs—whether it is safety or nutritional expectations, whatever it may be—it is important that those two, and the government's role in trying to ensure the delivery of what the consumers wants, can come together.

What I get concerned about is when the government tries to tell the consumers what they should be wanting. I think that is when we get into a dilemma between how those two come together. I look at Europe. You look at the concern of the EU toward products that are primarily American-type products—that are influenced by technology. It is not necessarily a reflection of the consumers' demand. It is a reflection of policy. In effect, it is an effort to try to influence trade policy that is being communicated and excused. That is why I think there needs to be an important delineation.

Response by Terry Barr. The only comment I would make is you are asking, to some degree, whether the political process can keep up with the market process. I am not sure that is possible the way the system works. Government policy always lags market changes. However, your assumption is because you integrate this system

back, it is not going to be a good system. In other words, somehow if it is not an open market, it is not a good system.

I guess, if you look at who participates in the political process, and you look at who participates in the market process, you will find they do not match up very well. You have dollars voting in one system, and you have people voting one-man-one-vote in the other system, and so forth. Furthermore, not very many people participate in the political process. So, I agree with your question. There is a question of how this system is going to be shaped, and I bring up the point of who is going to control this system? Right now, there are two points of control. There is a point of control in the genetics side and a point of control in the consumer side. That is the system that we are watching evolve right now. You bring in the rural communities issues with that as well. But, there is a question of what the proper role is for government as we watch this system evolve.

Response by Marvin Duncan. Let me note one point with regard to markets. I think those of us who have placed great reliance on public markets and publicly available information are in for some disappointment in the future. I think public markets are on their way out—as we have known them. It may be because markets, or market structures, are not able to adapt quickly enough.

For example, you may recall that derivatives first emerged in the financial markets. It was a case where particular players on either side of the transaction wanted unique characteristics. They found that, by creating derivative contracts, they were able to reshape their obligations or their opportunities under those contractual arrangements. Derivative contracts are now becoming an important part of the commodities business. This is because commodity contracts traded on the various commodity exchanges are no longer specific enough, or reflect the unique characteristics that customers and processors want. So, we will see increased use of the derivatives and private contractual arrangements whether we like it or not.

Additional Comment by Terry Barr. I just want to add a follow-up on that as well. When talking about risk management, I am intrigued by the industry having a big debate about the futures market as a risk management tool. I would question whether the futures market is even going to be a viable market in the future.

Question from the Audience. *There is an implication and assumption in this discussion that we will have a more efficient system which might imply lower food prices or lower percentages of consumer dollar spent on food. What are the implications for food prices long-term?*

Response by Ed McMillan. Well, first of all, I operate under the premise that more and more of a product is going to be less and less a commodity. In this country, in particular, we are going to be developing unique type products again. Rather than

everyone producing No. 2 yellow corn, they are going to be producing a derivative of No. 2 yellow corn.

I think the value of the product that we are producing, whatever it may be, is going to be going up. The value of commodity products, No. 2 yellow corn, is going to be pressured lower. Its value to the system is going to be less tomorrow than it was today because the value of the unique products will go up. I think you see that in the meat industry. You see packers finally paying a premium for truly valued-added products—beef that is better eating quality—consistency of beef—with better eating quality. This means that the commodity-type carcass is going to have a lower value. I think it is a natural implication of that. It does not mean that the net income or profitability of producers is going to go down. It means their opportunity for income is going to go up as they differentiate themselves, from a commodity producer, to a value-added producer.

Comment from the Questioner. *I asked about the food prices at the consumer level.*

Response by Terry Barr. My philosophy has always been that the American public is going to spend about 10 or 12 percent of its income for food. I do not think that this going to change a great deal. They are going to pay more for services associated with food, convenience, etcetera. But, I do not think that consumers are willing to commit large amounts of money to the raw product side. You are looking at a food industry that is probably going to continue to deliver right at about the level of inflation. We have a public policy that is going to work very hard to make sure that happens.

One of the problems we have right now is we have untested farm policy. In other words, we have a farm policy in place now that does not use grain reserves, does not use acreage controls, and does not use the traditional barometers to adjust supply to the marketplace. We have not been through the down side of this thing yet to see whether these tools are going to stay in place.

My experience in Washington is that policy decisions there were made on the basis of maintaining modest increases in food prices. That was the policy. Once you step outside of the U.S. Department of Agriculture, every other agency in town will support those decisions and will support moderate food price inflation. I do not think that is going to change any time soon.

Response by Marvin Duncan. One of the things the new food system is enforcing on us is the requirement that everyone associated with a business arrangement perform as expected. The cost of not performing will become extremely high. For example, consider the recent case of Hudson Foods in which one of their suppliers apparently provided them contaminated beef. This situation resulted in

not only a loss of Hudson Food's major customer for beef patties, Burger King, but it consecutively triggered the sale of the plant and, ultimately, the sale of the company. I envision that kind of tight linkage and dependency upon other people with whom you have a business or an alliance relationship. I think it is one of the emerging characteristics of this new food system. I would be interested to know whether my colleagues agree with that, or take issue with it.

Response by Terry Barr. Well, yes, there is no doubt about that. I think that this is one of the areas where producers and firms are going to be looking for a niche for themselves to provide that assurance. That is going to be part of the marketing value. Everything they sell on inputs is going to have some type of service associated with it. That certifies this product in some way to the rest of the food system. That is simply the way you are going to market.

Response by Ed McMillan. The license to market is going to be tied to that type of fulfillment. Product value and quality expectation are going to become more and more important. Furthermore, you are not going to be able to participate unless you have product value and quality at a competitive price.

Question and Comment from a Member of the Audience. *Marvin Duncan mentioned that a key issue was whether the benefits have exceeded the cost of industrialization. I want to focus on that, but reframe the question just a little bit. I want to talk about the distribution of the benefits and costs. I guess a quick observation would seem to be if benefits are, in some ways, concentrated towards certain groups and are, in some ways, diffusely provided to consumers. Also, on the other hand, some of the costs—environmental nuisance, for instance—may be for local economic infrastructure. Those types of costs are borne fairly locally by communities and neighbors. Some of the road blocks and obstacles we are experiencing have to do with the people who are bearing those costs, but who do not have any way to be compensated. So, would the panel comment about this benefit/cost distribution—is it a road block to the acceptance of industrialization?*

Response by Marvin Duncan. I think it clearly is. As was indicated, hogs will be produced where it is politically acceptable to produce them in an industrialized system, rather than where the slaughter facilities or the corn are. That seems to be the new reality.

I think that the issue of distribution of benefits and losses is an important question for us to deal with. This is particularly true in the land grant university system. In North Dakota, we probably are not unlike a lot of other states in the Mid-West and Great Plains in this sense. We probably have 25 percent to 30 percent of our farmers who are not going to survive the process of industrialization and integration. It is not only because of that process—it is that these farms, in many cases, are unfortunately going into this environment with too much debt, without

enough adequate management capabilities, and without adequate scale of operation. Perhaps, they simply managed to be farming during a period of adverse weather. So, there are going to be significant losers as well. You are absolutely right. The losers are going to be disbursed and the winner will be more concentrated.

Response by Terry Barr. I will add that you have to take that to an international dimension as well. When you started talking about positioning of our agriculture, I recalled some discussions I have had with our members. I asked them, "If you had to build facilities today, would you build them in this country? If you had to make investments in agriculture, would you make those investments in this country?" So, I think this cost-benefit question needs to be analyzed on a global scale as well as a community-type level.

Question and Comment from a Member of the Audience. *It seems to me that, one way or the other, eventually we are going to come down really hard on the externalities and force firms to internalize. One way to do this might be to use technology at the local level to deal with public policy. We mentioned earlier that hogs have been moved to North Dakota where there are no people, or to the Great Plains somewhere. But, the fundamental issue is—is all of this process going to give the advantage to the very large firm, the intermediate size, or the small firm? What is it going to do to the structure of agriculture?*

Response by Ed McMillan. I do not think the implication necessarily has an advantage or a disadvantage with one or the other. I think the advantage will be to the company who has a philosophy of reinvesting in the gain in future technology. If you look back over the last 15 years of the businesses in agriculture—particularly from the supply side of agriculture—who are survivors today? Who were leaders 10 to 15 years ago? What you find is the ones who lost, for whatever reason, were those who chose to quit investing in technology. It is about a 5-year lag, depending on which industry you are talking about. They were either absorbed, or they lost out in the process.

I think that whoever chooses to reinvest their value creation into future value creation will succeed with new technology. I think we have examples of that in the largest companies, as well as the smallest companies. But, I think that is one of the underlying consistencies that move forward in that process. I think it is important for the government to encourage that development and for the private and public sector to cooperate in the acceleration of that technology so that it is not a we/they philosophy going forward.

Response by Terry Barr. I think the advantage does go to the large-sized producer. I think that the way this system is evolving, if you look at the concentration in the food processing side and if you look at the concentration in the away-from-home retail delivery-side, you are going to have a critical mass of product to provide

to these companies. That is, if they want to do business with you. Now, that does not mean you have to be large and, again, my bias with regard to cooperatives may come through a little bit here, but I think it is a question of whether farmers are willing to come together and organize themselves into some kind of an entity that can deliver a critical mass to the rest of the food system.

This system is going to get narrower and narrower and the question is—"Who has enough control over the production mass to be able to do an alliance with the rest of the food system?" This means to give assurances to the system (all the assurances they want) in terms of what kind of input you use. How did you harvest it? What are the quality controls? What are the specifications on it?

If I am in the away-from-home sector, I want assurance that the product is going to be delivered to me. I want certain quality on it, etcetera. You do not want Burger King announcing a new product about the same time Hudson Foods announces the contamination of the beef. This is not good business. So, there are going to be very strong relationships back down the system. That does not mean that it is with a particular farm or single entity. I think one of the reasons they go into business themselves is that they cannot find the entities to do the kind of things that they want to do. If you begin to see these producers willing to come together and say, "Hey! Let's get together and provide this product to these other companies," then they are going to be viable in the system—and they may be made up of a lot of intermediate-size producers.

Response by Marvin Duncan. I have one comment with regard to the scale issue. I think the situation may not be as much a matter of scale as it is a matter of relationships. Small producers that are successful in creating desirable and successful relationships could be winners. It will be large producers unwilling to make those relationships and arrangements who will find themselves not very profitable. Frankly, I believe Terry; that the American cooperative movement is on the verge of a very unique and special opportunity in terms of being the vehicle through which farmers retain control of their business enterprise as we move into an industrialized environment.

Question and Comment from a Member of the Audience. *Is there any alternative to industrialization? Is there any way to maintain producers in the traditional context? I just do not believe there is a future for small producers in the type of agriculture that is likely to exist in the future.*

Response by Ed McMillan. I will just go back to what I said in my closing comments. I think the independent entrepreneur has a very viable future providing that entrepreneur stays on the leading edge of productivity in producing whatever he produces—whether it is a commodity or a unique product.

Comment from the Questioner. *But, he has to be integrated.*

Response by Ed McMillan. Well, that depends on the interpretation of what the word "integrated" is.

Response from the Questioner. *He or she is not going to be selling on an open market.*

Response by Ed McMillan. He or she is going to be selling at a market of product specifications. That market has a price from a gross commodity to a unique valued-added commodity. The choice will be which of those products you are going to produce. Is it more viable for you to be a least-cost producer of commodity, or is it more economically viable for you to be more of a niche player of a value-added particular product? In other words, can you get a return to the cost of doing that? I think that is going to be the producers' issue. I do not think it is an issue of integration.

It is interesting that the word integration has a lot of different connotations among people. If you ask people what it really means—for those of us who first started hearing about it in the 1970s or the 1960s—we have one perception today. But, some people believe that integration means an entity-related system not necessarily owned and controlled by each party. I guess I would call it coordination rather than integration. I think we are going to see a coordination issue rather than an integration issue.

Response by Jim Webster. Not many of you on the tour yesterday were aware of American Classic Tea, although we do see it in the Washington-area supermarkets. Some of you may be aware of branded Farmland Beef and branded IBP Beef in plastic wrap—ready to go into the microwave—precooked. National Cattlemen's Beef Association had a reception in Washington a week ago and they had precooked beef there. We do not see that at the supermarket. There is not a national distribution of these differentiated products yet, but I can guarantee you that the beef feeders that make the top dollar are going to be the ones that supply into that chain. The pork producer who can supply the lowest fat, consistent quality and highest quality to IBP specifications is going to be the winner in this game. They can, and will, continue to be independent operators. They will give up some control. As Luther Tweeten said yesterday, they will be compensated through premium prices for that.

Eugene Paul mentioned something yesterday about, "we cannot let the rest of agriculture go the way of the broiler industry." Well, there are pluses and minuses to that. Some of those contract broiler operators are sending their kids to college and they have new pickups, and they are doing a lot better than they did before the integration of the broiler industry.

Response by Terry Barr. Let me follow-up on that comment. One of the intriguing things to me is that I think we actually have begun to move beyond a characteristic type of agriculture. We are really moving to the next step, which is really product-defined, and we are fairly early in the game. I think it is also very early-defined in the sense that you are talking about input bundling. You have to have a certain combination of inputs now to get the product down the system. These are very concentrated channels that you go into very quickly. I think this changes the nature of production agriculture and who can fit into that system. The final say is now with consumers—there are certain things that they want. Those things are really going to be preordained by the input mix that producers have to begin with. I think that is where you begin to limit the opportunities for the next layer on down the system.

Question and Comment from a Member of the Audience. *When you start off with industrial economics, one of the early things that people talk about is the ability to enter into a business. In other words, I am talking about barriers to entry—entry thresholds, etcetera. The classical example, of course, is the automobile industry. In automobile manufacturing, the threshold to entry has become so high that the individual entrepreneur can no longer go out and enter the industry. Is the threshold going to be extremely high in terms of getting into production agriculture—be it a specific product or a generic product? I guess one of the concerns is if there is not an open market for volume, i.e., to be able to sell your product, and if there is not an open market for technology—if the genetics is locked up under patents. You know we now have barriers to entry in agriculture that are all of a sudden going much, much higher than they have been in the past.*

Response by Marvin Duncan. I think the short answer is yes. The longer answer, however, is that there will be a lot of opportunities emerging that are spun off from these new relationships and business developments. When I was young and thought about agriculture, I thought about it as becoming a farmer. I noticed that the students in my classes currently tend to think of it in the same way. I do my best to try to dissuade them from that and they look at me somewhat amazed when I ask them how many of their farm operations generate more than $250,000 in annual sales. They have not thought about what is required to be a successful farmer. On the other hand, I see a lot of new business opportunities linked to agriculture that never used to be there. Most North Dakota farmers are now hiring some crop consultants. They are hiring marketing consultants. They are hiring pesticide management and application consultants and soil fertility consultants. I think there will be a lot of new business opportunities for entrepreneurs that are linked to agriculture and agribusiness that we did not used to have.

Response from the Questioner. *Marvin, I agree with you. I think there will be jobs for people. My question is one about ownership and control.*

Response by Marvin Duncan. There will be a lot of smaller businesses that provide specialized expertise which will offer the opportunity of ownership and control but, just like your example of the automobile business, a smaller proportion of people will be their own bosses. Now, that is both good and bad. Not being your own boss has some significant advantages as well. Otherwise, most of us would not be working for land-grant universities. We tend to be an extraordinarily risk-averse group of people. Nonetheless, I think there will be some unique opportunities.

Response by Terry Barr. I think you will still have ownership, but I think it will be controlled and that control will be given away to the risk management option. I think producers will discover that the risks are just too high to have absolute control. So, producers are going to give up control for that. The pace of that will probably be influenced by the rate of growth in the export market.

If the export market grows rapidly, then I think you probably have less concerns about that. If you do not have growth in the export market, I think—to a large degree—you spend a lot of time in agriculture selling these trade agreements and selling this export market. So far, we have not seen the kind of growth that everybody is talking about. If we do not see that growth, I think a lot of these concerns about consolidation and concentration are really going to intensify. The food system in this country has already narrowed down dramatically to satisfy the domestic market.

Response by Ed McMillan. I just want to add to and reiterate what I previously said. Those who are closest to fulfilling consumers' demands are going to be effecting that control process. That does not mean that the food processors are going to control the system. If we let that happen, that is what will happen. I think that there are many, many examples—in cooperative systems in particular—where participation in that has been in place. But, the consumer is going to direct so much of what we are doing. How production agriculture participates in fulfilling those consumer demands will have a big impact.

Question and Comment from a Member of the Audience. *We basically just had a company dissolve in Nebraska because of E. coli. I guess, to me, that raises the public health issue and who is responsible—if anybody. If there is a role for government—or there are some implications of technology. I would argue—or I think it could be argued—that the production practices in the last 20 or 30 years have developed super strains of bacteria that have now tainted our food supply system. The good part is that there is some accountability on the brands of products. But, we also have tremendous social costs because the tools we have used in the past do not work. I would like you to comment about that, and the role that government can play, if any, in dealing with that issue.*

Response by Jim Webster. That is a good question because it is so topical. I think that it is probably competitively in our advantage if we use those parts of the

country for agriculture where it is environmentally least damaging. We should use technology to mitigate the environmental impact of production. We can capture those markets and have some jobs. Now, the question that Eugene Paul raised yesterday—how about some of the sweat shop labor involved in that? That is a problem. The Occupational Safety and Health Administration (OSHA) has levied two of its biggest fines in history in the last two years. Both were against egg producers—one in Maine and one in Ohio. OSHA has moved on Hudson; they moved on Pilgrim's Pride; and they have moved on some others. There is evidence that OSHA is going to get even tougher on the poultry industry. I think we have to look at the terms of contracts—the rights of contract growers. Things like that are going to emerge as political issues that address the costs that you are referring to.

Response by Ed McMillan. I have two comments. The person that puts their name on the product is going to be responsible. I think it is quite interesting to see that Hudson chose to decide that they could not re-enforce their name. Tyson said that is no problem—we know how to do that. IBP said that is no problem—we know how to do that. The people who want to put their name on a product and then create linkages back through either—an integrated, coordinated or series of independent producers who deliver that—will have it in play. The government will set expectations along the way, but the government does not put their name on it. The company that puts their brand on the product is going to have to be accountable. They are going to have to stand up and accept it and put the expectations in place. Additionally, that company will have to pay for those expectations along the way.

Comment from a Member of the Audience. *I have a comment about the linking of the family farm concept and industrialization. I believe that this is really a disservice, not only to agriculture, but to how we deal with this issue as policy educators. It is not a link—it is an emerging process of coordination. Organizations like the National Farmers Union, the National Farm Bureau and your local Farm Bureau and others want to make that link and say that the industrialization means concentration—which means no family farms.*

Response by Ed McMillan. I am a product of a family farm, and I assume many others here are also. It is a very emotional, warm feeling for me but that does not keep my family—that is involved in agriculture—viable. If you want to look at the sustainability of family farms, look at the European Community. What they are trying to continually do is to sustain a rural life and environment through creating policy that sustains an inefficient system. This is reflected in the political movement in this country—of which many of you were a part—when we moved to the freedom to farm philosophy. We said we are going to create freedom for entrepreneurial initiative for an individual to be successful, whether it is a family or whatever it is. We have a policy that encourages that independence. I do not think we are going to see policy in this country that maintains a family situation at the expense of producing a high

quality product. There is going to be opportunity, but it is not going to be at the expense of that.

Response by Terry Barr. You are talking about organizations who are grass roots-type organizations and so forth. If you have 2 million farmers out there and 1.4 million of them are small, what is going to be your status? What kind of statement are you going to make in this environment? You are not going to say, "Well, we would like to have those 150,000 large farmers be members of our organization." They are going to go with the broader political base. They are political organizations to begin with. They are looking for that broad base, and you do not have a broad base for very large agricultural producers. You have a financial base, but you do not have the broad political base.

Response by Marvin Duncan. I have always been impressed by the innate good judgement of farm women. If you talk with a farmer, he is apt to be angry about possible loss of control through a contractual arrangement—the loss of the right to decide whether to farm today or go fishing. His wife, on the other hand, is interested in whether there is health insurance for the family, whether the family can be educated, and whether there is a nest egg being put away for retirement. So, it seems to me that when you look at the broader interest of the farm family, it may indeed be served by some increased linkages whether the farm be small, medium-sized, or very large. My guess is that if the men are not happy about it, the farm women may be.

Comment by the Jim Webster. Ladies and gentlemen, I am sorry, but our allotted time has expired.

Administering Environmental Law: Impacts of Private Landowners and Public Uses

Evolving Environmental Law: Impacts on Private Landowners and Public Uses*

Bruce Yandle
Clemson University

Introduction

In the summer, I watch hummingbirds fly and hover near a feeder that my wife, Dot, carefully fills with nectar and hangs in view of the kitchen window of our country home in rural Georgia. The store-bought nectar is colored red, since people think that hummingbirds find that color attractive. Business around the feeder picks up following rains that wash away the birds' naturally-provided food. It is then that the feeder becomes crowded and a hummingbird struggle ensues. Almost always, there is at least one bird that attempts to control access to the feeder—what naturalists sometimes call a dominant male.

The dominant male, seeking to maintain control, will fly rapidly to the feeder, place its beak into the small opening for a quick draft of nectar, and then fly to a nearby perch where it vigilantly monitors the feeder. When other birds attempt to feed, the monitor quickly tries to intercept and force them away from the stock of sweet food. But, while the monitor engages in dogfights with one bird, another often swoops in and takes its fill.

Hummingbirds have no way to stake a claim to the feeder. So far as we can tell, hummingbird communities have no constitution that reflects evolved rules for establishing a social order. Most likely, a long process of adaptation and selection has generated hummingbirds capable of living in a world where nourishment is a common-access resource—a commons. Hummingbirds cannot store nectar for tomorrow; even their homes are constantly besieged. They live a life of flight, engaging in a constant search for nourishment to feed their high-energy lives and, at times, fighting for temporary control of valuable resources.

People are like hummingbirds in their attempts to use environmental resources. But unlike hummingbirds, people have built institutions that take the edge off a frantic commons struggle. People have found ways to improve land, invest in herds and crops, harvest, store, transfer to others, keep some and pass some along to their heirs. People invented property rights and the obligations that go with them. If

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*This discussion is taken from Bruce Yandle, *Common Sense and Common Law for the Environment*, Lanham MD: Rowman & Littlefield Publishers, 1997.

rightholders do smart things with their environment, they reap rewards; if they do dumb things, they pay damages. Private property rights are the most powerful social invention ever to develop in man's pageant on this earth. The environmental tensions that affect agriculture and other natural resource activities begin and end with struggles over the definition and enforcement of property rights. My comments focus on crucial elements of the struggle. Starting with an explanation of private property rights, how they evolved and how they worked to secure environmental assets, I then describe the decline of those rights, the rule of law and the rise of the rule of politics. Along the way, we will observe a tendency for hummingbird economies to surface in our world, and then will note a growing trend that suggests a return to a world where private property rights again provide environmental security and a basis for the creation of new wealth.

Property Rights and Common Law

Private property rights did not evolve easily and are not well understood. Indeed, some are so misinformed as to believe that private property rights are the villain in the environmental saga; that politics and command-and-control are the solution. It is little wonder. Most people today have matured in a world governed by the rule of politics. Few can recall the time when the rule of law governed the use of property. Because of this, private property is constantly threatened. But even for people, all environmental problems, indeed all problems of resource use, begin with a commons and end with institutions—evolving environmental laws—that define and protect environmental rights.

Until around 1970, environmental rights were well established in this country by a system of common law, state statutes and local ordinances. No, environmental protection did not begin with the U.S. Environmental Protection Agency (EPA). Environmental law had been evolving for centuries. Until 1970, common-law rights protected citizens from unwanted air and water pollution, provided havens on public land for endangered species, and provided protection for wetlands and sensitive habitat through systems of purchased easements. Multi-state and regional compacts provided the means for managing entire river basins. The emphasis was on outcomes--not inputs, rules, technologies and permits.

Things operated differently in the pre-EPA days. If a large number of people were threatened by pollution, they could and did bring public nuisance actions against the polluter. Private nuisance actions were brought by individual occupiers of land who were harmed or threatened by pollution. The law, which was tailored to fit the controversy at hand, was tough. The remedies included injunction, which means operators were shut down, and/or damages to be paid to the aggrieved parties. The system, which was based on private property rights, was not perfect. But if someone wanted to alter land use, the process was rather simple. You found the landowner, negotiated with him or her and, if successful, purchased the rights to manage the land in your own way.

How did it work? Let me take you back to Jones County, Georgia. Along with the hummingbird feeders, a few bluebird boxes stand on the land that Dot and I own in rural Georgia. Cultivated plants, commonly called "butterfly shrubs," attract fragile insects to the porches of the old house where we spend our summers. These small but important assets are located on our property. The place has been in our family for almost 100 years; it is not for sale.

Our right to have bluebird boxes enjoys the security of law common to the people in our community; this provides a zone of autonomy that defines part of the essence of our life. The law common to the people is the same kind of law that Justinian's scribes recorded for the Roman Empire in 534. Environmental law is not new. The law common to the people is law discovered by community judges; it reflects common sense and rules of just conduct. Among the rights common to the people of Jones County we enjoy is the right not to be disturbed or harmed. Our neighbors enjoy similar rights. They have the right not to be bothered by us. These rights define zones of freedom and autonomy that allow for self-discovery, creativity and the generation of new thoughts and products.

Rules of common law limit these zones of freedom. If in exercising my freedom to cultivate land, runoff from my land pollutes the drinking water of my neighbor's cattle, my neighbor has a potential cause of action against me. If my neighbor's use of herbicides damages my apple trees, I have a potential cause of action against him. Our free zones are defined by environmental rights. The common-law rights that we enjoy are ancient. They are based on rules that emerged from natural law, which is another way of saying that the law of the land we unconsciously rely on has existed since "time out of mind."

If anyone damages our property or threatens us for having butterfly shrubs and bird feeders, we can call the sheriff and gain protection. We have never had to do that. Our neighbors watch our place, and we theirs. The rights we enjoy are really enforced by our small community, which is unincorporated. Extended lines of kinship and long-standing patterns of land ownership are dominant characteristics of the area. We have no local government. But, the laws we follow and maintain are sanctioned by the sheriff—who carries a gun. The property rights we hold in the community of Round Oak, which is located in Jones County, Georgia, provide us with a private sphere of action, a zone that cannot be invaded by ordinary people without our permission or the permission of our neighbors.

Not too far from our place, a neighbor plants, cultivates and harvests trees. Our neighbor unconsciously relies on the security of property rights when making 15-year plans for improving the soil, selecting seedlings, planting and harvesting. When harvested, the trees make their way to a Georgia-Pacific mill that produces merchant lumber and plywood. Chips from the process are carried by train to a paper mill that converts the chips to energy and paper. The paper mill, located on private property in the next county, discharges waste into the Ocmulgee River.

When I was in high school, some 45 years ago, a good friend was employed by the mill. He and other employees continually monitored the chemistry of the mill's discharge and the receiving waters of the Ocmulgee River. There were no water quality statutes that required this. Owners of land downstream from the mill held the common law right not to have deteriorated water pass their land. If those rights were violated, common law judges could shut down the mill. No government permit gave the right to pollute a river. In the 1950s, private property rights were dominant. Indeed, they were so dominant that some special interest groups began to agitate for federal legislation to secure a stronger voice in determining water quality rules. The easier law of politics began to displace the tougher law of the people.

The railroad that carries the chips is located on private property. The train travels on tracks that are just across the state highway from our place. The highway and its right-of-way are public property. Each year, highway workers come and trim some of my crepe myrtle trees because they infringe on the right-of-way. The highway department never asks my permission. It is serving a larger public interest that competes with my private interest. We ordinary folk understand this, and do not object. We enjoy reciprocal gains. But, the highway department can also only go so far, and it understands this. The zone of public authority is limited.

The railroad was built 120 years ago. The railroad company holds a deed to the right-of-way that has been contested infrequently. My neighbor—the tree farmer—the paper mill, the railroad company, and I enjoy private spheres of action that cannot be invaded by other private parties without our permission. But, we have little reason ever to think about all this. These rules of law are common to the people. They are a vital part of an informal order.

By informal order, I refer to an evolved social order based on rules of just conduct and common sense that are fundamental to a free society. Participants in the informal order follow unwritten rules, often doing so unconsciously. The informal order serves a vital purpose. Otherwise, it would cease to exist. It is economic in the deepest sense of the word. But, its existence can be eclipsed and, indeed, erased by formal actions that rely on statutes, regulations and politics.

The informal order that sanctions property rules and leaves an unspecified but constrained zone of freedom is based on the unanimous consent of rightholders; it is described as relying on a rule of law. The formal order, which depends on statutes and regulations and frequently defines positive rights and corresponding duties, relies on a rule of majoritarian politics. The ground is obviously set for conflict when the two order-generating systems collide. That is where we are in 1997.

Trees, butterflies, blue birds, paper mills, railroad track and land are real things; things that form part of our accumulated wealth. But, the property rights that surround these things are pure abstractions; social inventions that distinguish communities

of human beings from hummingbirds and other life forms. The invisible rights set boundaries that define and protect families, homes, schools, businesses and industrial facilities. Whether defined by the state or merely sanctioned by it, property rights form the basis for all trade and commerce. Indeed, the things we call property are valuable because of the underlying rights that connect the things to specific human beings.

Dot and I speak of our country home. My neighbor talks about his trees. The railroad company speaks of its right-of-way. The sanctity of our rights encourages conservation and long-term planning. Dot and I take pains to maintain our home; we enjoy the place, but we also expect to pass the property rights to our children. The right to exclude and to transfer to others encourages us to maintain assets that might otherwise erode away. Property rights of some type or form provide the foundation of all social life as we know it.

The Roots of the Law

This brief description of life in Jones County, Georgia, could be repeated countless times for just as many other places in the United States. Bundles of private property rights that evolved from custom, tradition and country courthouses form the bedrock of community life and make up a system of private law that, more often than not, silently supports the common transactions of day-to-day life in America. Resorting to litigation is the exception, not the rule. When considered relative to the number of transactions that occur in the course of a normal day, suits over property rights are indeed a minuscule part of private life. This system of law and property rights pre-existed the nation and the Constitution. The surrounding common law can be traced directly to England and a time when there was no national government. Indeed, the concept of nations did not exist at the time of its origin. But, legal scholars can trace what they term "law common to the people" to the dawn of history. The origin of private property rights is simply unknown. In that sense, private property rights per se are not the inventions of governments, parliaments, presidents and kings. They are a social phenomenon, part of a Darwinian process that has everything to do with people, survival and the accumulation of resources. But, they can be and are recognized, sanctioned and formalized by government. Still, we should never confuse law and the theory of society with politics and government.

While rights common to the people did not emerge from governments, governments have much to do with them. Governments were invented to provide more security to rights than might be obtained otherwise and to transfer wealth from one group to another. When governments were invented, shaped and reformed, some founders took pains to restrict government actions that might disturb the sanctity of their private rights. They were fearful of government's redistributional tendencies. The rights protectors attempted to reinforce the process that supported the private property customs, traditions and rules. At the same time, others saw the

machinery of government as a means to achieve another vision, one more favorable to their public property preferences. The issue is control, and the goal is to control and not pay.

Following an ancient struggle on the matter, we find in the Magna Charta (1215) these words supportive of the private meme: *No freeman shall be deprived of his free tenement or liberties or fee custom but by lawful judgment of his peers and by the law of the land.* I note that the term *law of the land* was used at the time to define common law. Four hundred years later, after struggling with a despotic ruler, the people of England wrote their Petition of Rights through Parliament in 1635, which says: *Englishmen are free in their property, which cannot be taken by government.* It is not surprising that the free Englishmen who formed this nation and penned our Constitution wrote what we call the takings clause: *Nor shall private property be taken for public use without just compensation.* There was really nothing novel about the statement, which some of the founders thought to be self-evident and redundant. Law common to the people had been operating in the older colonies for more than a century when the Constitution was adopted. But, those supporting the law of land wanted more assurance that the rule of law would be preserved explicitly in the Constitution. By having the statement included in the Constitution, the chances for survival were enhanced.

Takings clause requirements are extended to the states by the Fourteenth Amendment which says that *"any State [shall not] deprive any person of . . . property, without due process of law."* Indeed, protection of private property from state-government takings is buttressed by state constitutions, forty-eight of which contain takings clauses similar to that found in the federal constitution. In addition, twenty-four state constitutions extend protection to property that is "damaged" by government action, even if it is not "taken."

Repeating these significant social statements does not make obvious the notion that private property rights are a settled issue. Far from it. If that were so, the statements would not be there. The controversies that continue to surround the idea of private property rights suggest that the notion is certainly not all that obvious.

The Decline of Common Law Protection

Wetlands, endangered species protection and statute-based shields that deny common law rights provide fruitful examples for exploring tensions between informal and formal ordering systems. With endangered species, Congress, by statute, has empowered regulators to engage in activities that can and do interfere with traditional common-law rights. In the case of wetlands, regulatory agencies, acting as agents of Congress but without explicit statutory authority, have defined activities that allow for the attenuation of private rights. In addition, the Clean Water Act and a host of state legislation have taken environmental rights previously held by ordinary people.

For example, until 1972, citizens in Illinois could and did bring common law suits against polluters in Wisconsin who damaged Chicago's drinking water. They could expect to, and did, receive redress. Those environmental rights were taken by the 1972 Clean Water Act. Today, matters involving interstate pollution are in the hands of federal regulators. If Milwaukee meets EPA mandates but still deteriorates Chicago's drinking water, Chicago has no redress.

At common law, owners of adjacent land could and did bring suit against hog farmers if odors and other unpleasantness reduced the value of land or interfered with the enjoyment of property. Today, rightholders in 35 states cannot readily bring action against neighbors who operate confined animal feeding operations that inflict uninvited environmental costs on them. The polluters are shielded by statute. Private property rights have been converted to public rights and transferred to administrative agencies. A government permit is all that is needed; operators of confined animal feeding operations no longer worry about common law suits. They have a new and perhaps more costly worry—making the political process work in their favor.

This conversion of private to public rights expanded significantly in the 1970s and 1980s. Consider my country home in Georgia. If the American bluebird becomes listed as endangered, a conversion of rights occurs immediately. Agents of the U.S. government can dictate what we can do on our land in Georgia. Bluebird boxes will disappear overnight. If wetlands are found on my neighbor's land, then federal authorities can mandate how and where my neighbor will plant and harvest trees. Taking an expedient view, the logic of these mandates rests on the notion that politics should override the law of the land when important social benefits are at stake. Staying with expediency, others see the same actions as an unfair infringement of their property rights. If previously held rights are to be transferred, then the prospective owner should be willing to pay for the rights received. Otherwise, the transfer will not be valid in a common law sense.

As a result, people in my region are wary about providing habitat for the red-cockaded woodpecker, since they will lose the use of a large swath of land if the woodpecker is discovered. Indeed, one well-known conservationist, Ben Cone, of North Carolina learned this the hard way (Welch, pp. 151-197). Just as in the Pacific Northwest, timber operators revise their harvest plans and, in some cases, clear cut to avoid encounters with wetland regulators and endangered species. Species habitat is lost. Affected land values fall and previously profitable ventures become loss leaders.

Regulatory U-Turns and Property Rights Shifts

The U-Turn. The huge increase in environmental rules that dramatically affect the status of rights that were once private contributes significantly to a vibrant and highly vocal national property rights movement that is successfully obtaining relief

in courts and state legislatures. Even Congress has finally heard the voices of ordinary people who say "Enough is enough." But the two major topics which seem most inflammatory to farmers and ranchers, endangered species protection and wetlands, were not always controversial topics. The controversy arose when politicians substituted the rule of politics for the rule of law. That is, when the status of private lands rights shifted to become public property.

The Endangered Species Enforcement Shift. Federal statutes protecting endangered species have been on the books for almost 30 years, but few people were bothered by the law until recently. The reason for that is quite simple. The language of the first Endangered Species Act of 1966 and later versions of the law emphasized government purchase of sensitive lands, which were then set aside as a habitat for the targeted species. When government wanted private land for a public purpose, it paid the owner. Takings was the default position.

About 1985, a new property rights regime emerged. Enforcement of the Endangered Species Act took a U-turn. In addition to acquiring land through the market, the federal government began to use its regulatory powers to acquire land rights. A system of feudal land-use rights, public property, replaced private property rights. Under the new regime, government assumed the position of superior owner and dictated a system of actions to be followed by the citizen-tenant. The bundle of private property rights held previously by landowners was sharply reduced.

But before the U-turn, and even after, the purchase of habitats for the preservation of native endangered species drew on the 1964 Land and Water Conservation Fund Act (LWCFA), which created the Land and Water Conservation Fund (LWCF). This fund was established "for the acquisition of land, waters, or interests in land or waters .... for any national area which may be authorized for the preservation of species of fish and wildlife that are threatened with extinction (*Land and Water Conservation Fund of 1964*)."

The Act appropriated $15 million from the Land and Water Conservation Fund for such purchases. The "taking" of listed species was prohibited only on federal lands that were designated as wildlife refuges (*Endangered Species Preservation Act of 1966*). Since establishment of the LWCF in 1964, some $3.6 billion have been used to purchase sensitive land, and another $3.2 billion was allocated as matching funds for states to purchase land (National Research Council). Currently, the Fish and Wildlife Service maintains 89 million acres in its 472 wildlife refuges. But, the purchase of land was controversial to ranchers and farmers in the West and those in the Sage Brush Rebellion who saw even more private land falling into government hands.

As the environmental movement shifted into high gear during the 1960s and 1970s, federal land management agencies steadily increased their land base. When

private land was desired for public purposes, the land management agencies purchased it. From 1965 to 1979, total purchases increased from an average of 729 acres per year to 258,270 acres per year (National Research Council). By the mid-1970s, the wildlife refuge system had grown to more than 30 million acres. The system continued to grow in the late 1970s under President Carter, who added 12 million acres by Executive Order in 1978. In 1980, the Alaska National Interest Lands Act designated another 42.9 million acres of Alaskan territory as refuge lands. By 1980, the Fish and Wildlife Service's land base stood at 87 million acres (Shanks).

The potential for property rights takings emerged in 1980 when Congress cut appropriations to the Land and Water Conservation Fund. Land purchases fell to an annual average of 145,000 acres, down by almost 100,000 acres from the 1979 level (National Research Council). The Reagan administration brought a change in policy, largely as a result of Western concerns about the continuous expansion of public land ownership, and began to sell public land. A moratorium was placed on Land and Water Conservation Fund appropriations.

The government purchase of private land rights came to a halt, but the political mandate to provide habitat for endangered species continued apace. No longer constrained by budgets, the land control agencies found it easier to designate more land as serving the public purpose. Expansion of public ownership was replaced with expansion of takings.

The Wetlands U-Turn. What about wetlands? Examination of the story reveals another U-turn in property rights definition. In 1990, Congress established the Wetlands Reserve Program. The 1990 legislation stipulated that one million acres of wetlands be enrolled over a five-year period, beginning in 1991, by purchasing easements and property rights. No appropriations were made in 1991 but, in 1992, $46 million was allocated for the purchase of private land rights. Some 2,730 farmers expressed interest in selling easements on 466,000 acres (Dunlap; National Research Council). The program was not controversial. It was based on common sense and common law. You do not reap where you have not sown. There were no takings.

Unfortunately for owners of private land, the Wetlands Reserve Program died because of its great success. Far more farmers submitted offers to sell than appropriated funds would support. Funding ended, but the urge to set aside wetlands did not, especially when the price was zero. Eventually, President Bush made his famous pronouncement, "No net loss of wetlands," and the bureaucratic transmission shifted to high gear. Without funds to pay due compensation, private property rights were taken to serve the public interest.

With the regulatory process in high gear, and without the need to pay real money for property rights, the definition of wetlands expanded (Laffer). At one point, the definition included land that was dry 358 of 365 days in a year. Then,

interpretation of language in the Clean Water Act addressing discharge of pollutants into the waters of the United Stated began to be expanded. In 1975, a federal district court ordered the Clean Water Act to be applied to wetlands (*Natural Resources Defense Council v. Callaway*). After that, the commerce clause was invoked to include any waters involved in interstate commerce, which was then determined to be any water visited by migratory water fowl in their multi-state travels.

All along, Congress never passed a wetlands protection act. The entire regulatory struggle was based on interpretations of the Clean Water Act. Although Congress has not as yet amended the basic water pollution legislation to deal directly with wetlands, Congress had indeed dealt with the topic. That was when the U.S. Department of Agriculture was authorized to negotiate with landowners and pay them to keep their land in its natural conditions—the Wetlands Reserve Program.

Now, let me tell you about the U-turn. Today, a permitting program run by the U.S. Corps of Engineers involves 100 to 200 million acres of land and the processing of 95,000 permits annually. Under authority never officially delegated by Congress, but certainly with its knowledge, regulatory agents have now pressed criminal charges against farmers, ranchers and homebuilders for wetlands violations. Between the years 1983 and 1993, the U.S. Justice Department indicted 751 individuals and 329 corporations for criminal violations. Some 804 cases have resulted in convictions and more than 400 years of jail time have been collectively imposed.

In the earlier days of the Endangered Species Act and the wetlands program, there were two ways for interest groups to gain control of land. One was market-based, and based on a rule of law; the other was based on political control. With taxpayer funds taken from the public purse, the regulatory agencies could acquire private property and serve a public purpose. But when the funds dried up, and the legislative mandate continued, the agencies marched forward, relying on government's ability to use its police powers to serve the public interest.

Until now, the regulatory U-turn, which represents a major shift in property rights protection, has been passively accepted by the U.S. Congress and celebrated by environmental groups that believe their interests are superior to those of private land owners. But, there are signs that private property rights protection will re-emerge, with farmers and ranchers leading the effort.

The Property Rights Response

Interest group politics suggests that no coalition can hold sway forever. At some point, the costs imposed on those who bear the politically-determined burden become unbearable. In terms of the Fifth Amendment, a stretched constitutional constraint has only so much give to it. Eventually, the takings clause must either be disregarded totally and forgotten, or it must be reasserted. The veritable explosion

of environmental rules that generated so much controversy among holders of private rights to land eventually encompassed a huge number of people who recognized their common problem. The cost being borne by members of the group reached a point where rational behavior called for a response.

Concern over property rights protection led to failed efforts in the early 1990s to gain federal legislation. Later, the 104th Congress added property rights protection to the Contract with America. No final action was taken. Disappointed by the failed effort to gain federal legislative protection, property rights advocates moved to the states. In September 1997, some form of property rights legislation and related governor's executive orders were in place in 25 states. Three of these have statutes that set trigger points for compensation when government regulations reduce land values. Two provide for compensation without trigger points. The others are of the "look before you leap" variety, putting government agencies on notice that burdensome regulation can be costly.

Accompanying the property rights movement, we find major features of federal regulatory authority devolving to the states. The reasons are threefold:

- The federal government cannot afford to enforce the many statutes and regulations now on the books.

- Ordinary people have raised a ruckus about discriminatory and, in some cases, outrageous enforcement.

- After more than 20 years, the federal advantage in protecting environmental quality is far from persuasive. We have borne high costs, but we have not received high benefits. We also find common sense approaches being applied in river basin management that have brought nutrient-trading schemes for point and nonpoint sources of phosphorous and nitrogen.

But while these changes offer reasons to be optimistic about better prospects for the environment and productive life as we have known it, there are counter forces to consider. New air pollution standards are now in place that will augment those still not met by a vast number of locations. Pending treaties to control carbon emissions could impose extraordinary costs on energy consumers while delivering benefits that are only speculative. A Heritage Rivers program that extends national land-use planning has fallen into place. Additionally, efforts are increasing to impose urban visions of zoning and planning on agricultural communities.

Read optimistically, the combination of political actions and resumption of state control reveals an evolutionary pattern that cannot be denied. There is a quiet property revolution occurring in the United States, a revolution in the original sense

of the word—a return to an original position. The takings clause of the Fifth Amendment is slowly recovering its original meaning: "Nor shall private property be taken for public purposes without just compensation." But, the process is indeed slow.

Some Final Thoughts

The Fifth Amendment of the U.S. Constitution was intended to protect all citizens from an over-zealous government. Farmers, ranchers, retailers, land developers and environmentalists stand protected by a fundamental rule of law that forms the basis of their freedom. Even at the time of the founding, there was a controversy about just how much power to place in the hands of elected representatives. Some wanted the new government to generate order from the top down. Others believed that power should reside with ordinary people who would expect government to protect rights that had emerged over a long and arduous struggle. There were two competing visions of the role of citizens in a free society.

The new government established a new order, which in the Great Seal of the United States, is called a "New Order under Heaven." For the first time in history, ordinary people were given almost unlimited rights to seek and maintain their fortunes. The old order, control from the top down, was rejected.

In a free society where citizens hold the precious right to petition government, the tug and pull for government to address private and public problems has continued without limit. As time has passed, the federal government has expanded its powers at the behest of special interest groups who seek redress, comfort and profit. The force of Constitutional constraints today is a far cry from that felt in the first century after the nation's founding. Government's power to regulate has expanded almost without limit.

Farmers, ranchers and countless other citizens feeling the burden of government now call for a return to first principles. The restraint embodied in the takings clause is again being felt.

The issues that galvanize the interests of farmers and ranchers are often crystal clear. Private property rights have simply been redefined as public property, unaccompanied by compensation. In other cases, the issues are clouded by the presence of regulations that are substitutes for common law rules—regulations that attempt to deal with private and public nuisances.

If property rights are to be protected, there is a role to be played by an impartial referee. At times, private interests stand in the way of reaching goals that all citizens would embrace. But, while that may be government's role, there is no reason for the goals of the many to be obtained at the expense of the few. That unhappy outcome can readily be avoided.

When government seeks to serve the public, whether it be by preserving threatened and endangered species, securing sensitive habitat or altering the management of public lands, government has the power and the means to pay for legitimate rights that are taken. Recognition of that duty yields security to all who seek to improve life in this country, whether they be farmers, ranchers, environmentalists or university professors.

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Implementing Good Intentions: How Rules and Procedures May Alter Resource Policy Outcomes

Lawrence W. Libby
The Ohio State University

Introduction

U.S. environmental and natural resource policy has many cases of misfired good intentions, or less than good intentions that turned out better than they should have. Administrative rules and procedures ultimately determine what really happens on the land when new policy is enacted. The purpose of those procedures, of course, is to achieve the results embodied in statements of legislative intent that were precursors to policy change. That does not always happen.

All policy changes respond to changing views on how natural resources should be used and, thereby, how rights to determine resource use should be distributed. Demand for change may result from improved knowledge of natural systems or from demographic shifts that bring people with different preferences into contact with existing resource use patterns. Most policy changes are reactive, responding to a resource problem of some kind, rather than anticipatory or seeking long-term management for natural ecosystems.

Our overall policy system structures the opportunities available to people with access to markets, nudging the millions of private choices in directions deemed to have social utility. Some policies do so by eliminating certain options from the opportunity sets of resource users, as with the U.S. Endangered Species Act of 1973 (ESA). Others accomplish change in resource use through elaborate incentives designed to make some options more attractive than others. The Environmental Quality Incentives Program (EQIP) within the 1996 farm bill is an example of that approach. Performance of any new natural resource law or program depends on how people respond to their options as defined by the rules that put the new law to work, and by bureaucrats who interpret those rules. In a real sense, bureaucracy is the fourth branch of government; a critical, nontrivial component of our policy system.

In this paper, I review several examples of natural resource and environmental policy that are instructive of the role of implementation in affecting the real outcomes of those laws. I also provide relevant subject details about the selected cases, and offer suggestions for policy educators.

Endangered Species

Perhaps the most striking example of how implementing rules directly contradict good intentions is the U.S. Endangered Species Act of 1973. This law prohibits the taking of species of flaura and fauna considered to be in danger of extinction. Its purpose certainly sounds reasonable.

Taking as Habitat Modification. The Fish and Wildlife Service (FWS) of the U.S. Department of Interior, charged with responsibility to accomplish objectives of species protection, has defined "taking" to include adversely modifying the habitat that those species need to survive. Harm to a listed species is defined in FWS guidelines to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding or sheltering" (Welch, p. 166). A 1982 amendment permits private landowners to "incidentally take" members of a protected species so long as there are plenty of that species elsewhere, and a "habitat conservation plan" is implemented on the land in question. While the objectives of ESA are laudable, rules to put these good intentions into effect have caused problems, most of which should have been predictable.

Prohibiting habitat modification that might harm a listed species can severely reduce the land use options of a farmer or forester. This amounts to state and/or federal regulation of that land to achieve a recently defined public purpose. Ownership rights have never been absolute. They are limited by actions that would harm the safety, health or general welfare of others. Those limits are always subject to change as new information becomes available or as rights of *non*-owners are redefined. Some have argued that decisions to list certain species are driven more by anti-development or wildlife protection politics than objective evidence that a species is, in fact, endangered. High visibility "mega-fauna" like the gray wolf and bald eagle are cases in point (Humphrey). Property rights advocates argue that private options are so limited by such restrictions that a "regulatory taking" of private property has occurred (Welch).

Incentives Contrary to Purpose. Many landowners feel that their natural inclination to protect and husband the wildlife inhabiting their farm or woodland is undercut by the draconian controls imposed to protect the habitat. Finding evidence of a listed species on his land may be a time of great excitement for the landowner, but not of a positive form. His immediate concern is how to deal with the bad news that his harvesting or land realignment plan may be unacceptable habitat modification. Too often, the owner's response is to remove evidence of those species before the Fish and Wildlife Service is aware of its presence. The owner feels punished rather than privileged to have the species on his land. That situation hardly bodes well for the species in question. Just the proposal that a certain species *may* be listed as

endangered or threatened can trigger landowner reaction. Some may actually hire their own scientific advocates to argue against the listing (Goldstein).

A Case. Among the many horror stories that compromise good intentions is the case of timber owner, Benjamin Cone, in North Carolina. Nesting red-cockaded woodpeckers were found on his land during preparation of a timber sale. With the required one-half mile radius around each bird colony protected from modification, Mr. Cone lost the planned use of 1,560.8 acres of his timberland, reducing its appraised income potential from $2.3 million to $86,500 (Welch, p. 173-79). His loss is society's gain, of course, but it seems to many like a stiff price for one person to pay. He may sue under the Fifth and Fourteenth Amendments to the U.S. Constitution to seek compensation for rights taken through confiscatory regulation. Because he can still earn *some* income by harvesting pine straw and leasing hunting rights, the likely result of such a costly legal step is unclear. Such cases breed distrust and then disrespect for what seems like a reasonable public purpose and the agency responsible for implementing it. Government agencies seeking the public interest simply cannot succeed in an environment of rampant hostility, at least not for long. In another well known case, FWS staff in Florida were reluctant to define needed habitat for the endangered Florida panther for fear of landowner reaction. Even in the late 1990s, more than ten years after the species was listed, there is no plan in place (Maehr).

Seeking Better Incentives. Alternative incentive-based measures are under consideration to mobilize rather than frustrate a landowner's inherent appreciation of resident wildlife. A "safe harbor" agreement with owners of red-cockaded woodpecker habitat would permit the owner to have assured future development in return for immediate improvements to bird habitat elsewhere. Various tax incentives (such as deductibility of expenses for habitat protection) are on the table as well (Stone). An effort to lease habitat modification rights from Florida ranchers in the interest of protecting at least a portion of the 925,000 acres of prime habitat for panthers is under consideration (Evans).

Developing "habitat conservation plans" is the price an owner must pay for the incidental taking of protected species through adverse modification of necessary habitat. Again, the intent is honorable; to fashion a compromise that corrects some of the harsh results of outright regulation. The question is how these new rules actually function and whether they help achieve the declared intent of ESA. The Nature Conservancy learned that people who dealt with FWS in implementation were generally not convinced that agency staff were up to the task of granting "incidental take permits" and approving habitat conservation plans in a consistent and scientific manner. Landowners were afraid that after they developed costly plans, FWS might not actually grant permits to modify habitat elsewhere or might come back to them with additional demands. FWS staff made little effort to inform landowners about how habitat conservation plans could work, thus action on the ground was far below potential. Since cost of establishing plans was borne almost

entirely by the owner, small land holders were at a disadvantage to larger holders. There was too little information available on what practices would truly help protected species, and how. Owners resented the feeling that FWS held regulation over their heads as a threat but made little effort to establish effective habitat conservation plans (Humphrey).

Performance of New Incentives. There is little evidence that the combination of incidental taking and habitat conservation planning will really contribute to recovery of endangered species populations. That is, of course, the fundamental purpose of ESA, but these implementing procedures seem targeted more at quelling controversy than facilitating recovery. The "no surprises" language that is now part of the permitting process assures the landowner that once a plan is approved, no changes will be required during the 20 to 100 years of the agreement. That makes life easier for the owner, and perhaps *some* protection is better than none, but the stated purpose of the law that started all of this negotiation may be lost in the shuffle. New information could not be brought to the table if it might mean altering the agreement provisions. This "no surprises" policy is becoming a standard part of new agreements, but it has been challenged in the courts as being arbitrary and inconsistent with the stated intent of the law (Shilling).

Large area multi-species plans are being encouraged by FWS, but biologists observe that actual habitat requirements of a selected few species in the mix typically drive the whole plan. Some endangered species are being compromised to protect the target species in many such plans. FWS staff nationally are preoccupied with reviewing habitat conservation plans with little energy left over to consider new species listings or to measure the performance of rules that have evolved from negotiations between owners and governments.

Environmental Quality Incentives Program

This program is still in the early implementation phase, so conclusions about any deviations from the original statement of good intentions must be tentative. EQIP consolidates several incentive programs included in previous farm legislation into a single effort to encourage farmers to protect environmental quality through their choice of farm practices. The overall goal is to "maximize environmental benefits per dollar spent" from the $200 million of non-discretionary funds allocated as part of the 1996 farm bill ($130 million the first year, $200 million each year thereafter through 2002). EQIP is combined with a revamped Conservation Reserve Program in the new Environmental Conservation Acreage Reserve Program. Half of the dollars must be directed toward environmental problems of livestock production.

Voluntary Approach to Maximizing Benefit per Dollar. Unlike ESA, EQIP relies completely on positive monetary incentives to lure landowners into actions

that would "reconcile productivity and profitability with protection and enhancement of the environment."

Maximizing the benefits of environmental enhancement spending would seem to require that the program target the most costly environmental problems and induce private land use behavior that mitigates those problems at least cost. The missing phrase in this language is "to whom-so-ever they accrue," the guiding principle of benefit-cost analysis of U.S. public works projects as required under Senate Document 97 of 1962 (U.S. Senate) and the national income account of the Principles and Standards of the Water Resources Council, signed by President Nixon in 1973. Maximizing anything implies disregard of *who* is affected by the result. That principle has already been compromised with the requirement to spend half of EQIP dollars on livestock. Perhaps environmental problems from livestock are indeed the most costly and damaging environmental impacts of farming. But, even if that is the case, the one-half rule makes little sense. Perhaps *all* of the $200 million should be spent on livestock pollution problems to truly maximize benefits.

EQIP also allocates discretion to the states to identify priority problems and relative likelihood of success in treating them. Thus, it seems that the national optimum spending pattern is a composite of state optima. That is not a surprising feature, given the extensive state-level structure in place for all USDA programs, but it does fly in the face of the maximizing principle. Of course, not all state priority areas can be funded, thus some degree of national priority setting does enter the picture. EQIP targeting refers to *areas* or *locations* of high priority rather than specific problems or economic returns to pollution reduction.

Farmers are invited to submit bids—what they could do for the environment at what price. Incentives go with defined practices rather than performance standards because of the inherent difficulties in sorting out the amount of pollution contributed by any given farm. Farmers do have special knowledge of how their production systems perform with a unique set of resources, thus encouraging their bids would seem to be a relatively efficient approach. An eligible farmer must first have an approved conservation plan. The State Conservationist will then provide the incentives to those farms deemed to generate the most net environmental benefit per dollar. Individual farm contracts must be for at least five years, but not more than ten. States also propose "areas of statewide concern," problems beyond the individual farm that affect the overall quality of state resources. An eligible farmer within those areas will get special consideration for cost share and incentive payments. States must convene local work groups to provide guidance on highest priority environmental problems from farming within the state.

Inducing More Environmental Quality. There is a very interesting allocation rule involved. "CCC shall provide incentive payments for a land management practice that would not otherwise be initiated without government assistance" (EQIP Rules

1466.23 (a2)). Included are integrated pest management, manure management and irrigation water management. The intent is to go beyond what would be economically rational for the business and induce private actions that have social value. There would likely be considerable variation among farmers in the price for performing an environmental service. We must also assume that the farmer has a right *not* to manage his resources in an environmentally sound manner if the program is completely voluntary.

Experience shows that farmers actually invest in soil conservation practices at levels not explained by economic returns alone (Batie). Thus, determining what it would take to induce a farmer to do more than he would in the absence of those incentives is problematic. Farmers are not permitted to "double-dip" by getting EQIP incentives for land in the Conservation Reserve.

There is an implicit income distribution filter in the program in that "large" confined livestock operations are not eligible for cost sharing. Large means greater than 1,000 animal units. Additionally, no farmer may receive more than $50,000 in a year.

Efficiency vs Distribution. Implementation of EQIP reveals the inherent tension between efficiency and distributional goals. The notion of system-wide efficiency built into EQIP law is sound, but inoperable. There is no real constituency for national efficiency, except perhaps within the community of professional economists who, incidentally, fight diligently to protect the market distorting principle of job tenure. Implementation in a democracy confronts the "reality of who," that is—who must give up something to help someone else and who gains at someone else's expense. The fact that such shifts may enhance national efficiency of environmental investment is scant comfort to those asked to sacrifice for the principle. The more telling questions are where do the gainers and losers live, and what is their ethnic or income category? These characteristics will affect real performance of any law, including EQIP, since success of any policy requires a generally positive balance of support which, in turn, depends on distribution of impact. A conceptually "good" policy that offends nearly everyone will not long survive for long. That certainly was the experience with water project development under the Principles and Standards noted above. The Principles were modified from a strict national efficiency criterion to a multi-purpose framework that includes regional, environmental and social well-being consequences of the planned project. Then, people could argue over the magnitudes of impact calculated for each category.

EQIP may be a case where implementation improves on good intentions. Efficiency is largely an economist's pipe dream and not a practical decision rule for policy. Despite current rhetoric about privatization and market-like devices for public programs, there is no reason to assume that competition for EQIP dollars will produce a result that is inherently "better" than many other decision rules for fund allocation.

National efficiency, maximum environmental benefit per dollar, is already sacrificed when the implementing delivery system favors state-level decisions and livestock operations smaller than 1,000 animal units. Ohio received $3 million of the $130 million allocated this year. Presumably, states where livestock predominates received an even larger portion of the total. Within Ohio, funds will be distributed fairly evenly among two state priority areas and all farms outside of those areas (Rausch and Sohngen). The result is certainly not random, but neither is it the economic optimum for Ohio. It is probably the best option under the circumstances and can be defended in Washington.

With no explicit medium of exchange to accomplish efficient allocation through open competition, the information cost of determining the net environmental benefit of alternative farm level projects could be enormous. In reality, the allocation will be done as it always has in natural resource programs of USDA, some for nearly every place within the state and county distribution structure. If cloaking it all in a veneer of competition and national efficiency helps keep OMB and other forces for privatizing resource policy at bay, so much the better.

Florida's Property Rights Protection Act

Property rights protection statutes have been enacted in about twenty states since 1992. Most of these are of the "look before you leap" variety, requiring state agencies to anticipate the likely effects of proposed rules on the rights of private land owners. They are patterned after language contained in President Reagan's Executive Order 12630 of 1988, requiring federal agencies to consider whether proposed rules might constitute a "taking" under prevailing legal standards. As such, property rights laws do not constitute substantive limits on the authority of state and local governments to enact regulations to protect the health, safety and general welfare of the public. Like the environmental impact statements required under the National Environmental Protection Act (NEPA), these statutes only require that agencies document and weigh these impacts before moving ahead (Cordes).

Statutory Limits on Loss of Property Value. Florida and Texas have enacted laws that require compensation when a defined level of impact on the market value of private property has been attributed to a particular change in law or implementing rules. The threshold in Texas is 25 percent reduction in property value; the Florida rule applies when a policy or procedure "inordinately burdens" a private landowner. Both laws establish what lawyers call a "bright line" for defining a legal taking of private property through the regulatory process. They attempt to cut through the conflicting signals of case law dealing with Constitutional takings to establish a clear signal that *too much* private value has been taken by rule changes that limit options of the land owner to protect the public interest. Further, they establish a threshold much lower than the prevailing Constitutional test that essentially *all* economic value must be regulated away before property is lost to the owner, requiring

compensation. The U.S. Supreme Court has generally deferred to the legislative intent of regulations, acknowledging that important public purpose is served unless full economic value is lost (Cordes).

The Florida law deliberately goes beyond Constitutional taking. "It is the intent of the Legislature that, as a separate and distinct cause of action from the law of takings, the Legislature herein provides for relief, or payment of compensation, when a new law, rule, regulation or ordinance of the state or political entity within the state, as applied, unfairly affects real property. The owner of that real property is entitled to relief, which may include compensation for the actual loss to the fair market value of the real property, caused by the action of government" (Florida Statutes, Section 70.001(2)). A "government entity" under this statute does *not* include a federal agency and the section "does not apply to any actions taken by a government entity which relate to the operation, maintenance or expansion of transportation facilities." An "existing use" is defined in the law to include a reasonably foreseeable future use, thus giving owners rights in potential future value (Powell 1995, p. 266-68). The law became effective on October 1, 1995, and applies only to laws enacted after May 11, 1995, the last day of the 1995 legislative session. It does not attempt to redress past impacts on property values, but looks at future actions only. Additionally, future implementing actions based on statutes passed before May 11, 1995, are not covered under this law.

Procedures. The damaged property owner must file a claim against the responsible agency or agencies and include an appraisal showing loss of value. The agency has six months to respond with a settlement offer that could be a land swap, modification of the project or rules to mitigate the impact, an agreement to purchase the affected property, or denial that inordinate burden has occurred. If the owner rejects the government offer, he or she may file a claim for compensation in the circuit court. The court then decides if an inordinate burden has, in fact, been imposed and, if so, which agency is responsible for what share of that burden. The agency can appeal the court's decision and, if successful, the landowner must bear the cost of the appeal process. If the claim survives, a jury is impaneled to determine the amount of compensation due on the basis of property values only, not any loss of business that may not be reflected in property value. If the agency wins in court and the court determines that the landowner turned down a reasonable settlement offer, the owner pays court costs. If the agency is forced to compensate the owner, the agency then owns the rights or interests it acquired and may transfer those rights for development elsewhere under a transfer of development rights program.

The Florida law goes further than any other state property rights law to grant statutory protection for property rights. But, the law was really a compromise fashioned by the governor to divert more stringent proposals. The proposal achieved a remarkable balance among interests while sustaining the basic purpose of enhancing rights of property owners. It passed by a unanimous vote in the Florida House and

had only one dissenter in the Senate. A proposed amendment to the state constitution, endorsed by enough voters to go on the general ballot in 1994, would have required compensation for *any* regulatory reduction in private property value. The State Supreme Court struck this and two similar amendment proposals from the ballot as being too vague in language and presentation for the voters (Powell 1995, p. 261-64).

What are the Results? The Bert J. Harris, Jr. Property Rights Protection Act in Florida is a relatively new law, too new for definitive conclusions about performance. Like any law, however, it is a bundle of incentives designed to alter system functioning in a particular way. In this case, the law responds to claims by private landowners that state, local and regional laws designed to protect natural resources or guide the path of growth are forcing owners to bear an unfair portion of the cost of achieving those public goals. Clear intent of the law is to shift more of the cost onto the implementing agency and, thereby, onto the general taxpayer. It does so by giving property owners the right to demand settlement from the agency without the burden of raising the issue to the level of a Constitutional taking.

Results of the law will inevitably depart somewhat from stated intentions. Observations about unintended consequences of the complex mix of incentives contained in the law may be grouped into two major categories—boundary issues and distributional effects.

Boundary Issues. Rules determining which actions are subject to the law and which are not, as well as who has the rights and who does not, provide important indications of overall performance.

- Timing—the magic of May 11, 1995. An essential compromise along the road to unanimity was the cut-off date. If the landowner's right to settlement was made retroactive, the system would be immediately out of control. Thus, laws, rules, regulations or ordinances passed before that date are exempt from the provisions of the law. An amendment to an old law, as in the amendment of a local zoning ordinance, for example, is covered only to the extent that the amendment itself imposes inordinate burden. Based on this eligibility rule, several of the nine demands for settlement filed thus far were rejected by the governmental units. The City of Miami Beach rejected a claim brought under its historic preservation district enacted in 1996, but as part of a general zoning ordinance enacted several years earlier (Boulris, p. 41). In another case, the owner claimed that the 1996 decision by the City of Clearwater to deny continuation of a variance to the zoning ordinance constituted an inordinate burden on his property value. The City continues to argue that since the zoning ordinance is not covered under the property rights law, the claim is invalid (Powell, 1997). An unintended incentive of this eligibility provision is that local governments will be reluctant to change

old laws that perhaps should be dropped altogether. They will try to tie future enforcement actions back to earlier rules rather than enact new ones.

- Only those landowners in the path of development will experience reductions in property value from growth management rules. If there is no zoning ordinance now, there probably will not be in the future because of the property rights statute. If there is zoning, but poorly implemented, it is *still* exempt from the law. Perhaps the property rights protection statute will encourage more vigorous enforcement of old ordinances.

- Transportation actions do not count. No public action has greater effect on the pattern of growth and value of private property than those "related to the operation, maintenance or expansion of transportation facilities." But, since these tend to be value enhancing rather than reducing, landowners do not complain. Public transportation investments may create value on private land that owners can then sue to protect. Growth management will be very difficult under these conditions and many citizens will feel damaged by the pressures that road extensions or improvements create. Thus, owners and residents will be penalized to protect the increment in land value that their taxes helped to create.

- Non-owners need not apply. Provisions of the property rights law apply only to private holders of title. Lessees, contractors and units of government may not bring action. Yet, absentee landlords, whether of farmland or inner city neighborhoods, may not represent the interests of those most affected by the change of rules that becomes the cause for action under the law.

- The Feds are golden. Actions of a federal agency are not covered, yet these may have the greatest impact on private property value. Implementating rules for the U.S. Endangered Species Act are a case in point. The notion of shifting the cost of achieving public purpose from private owners to a public agency may be thwarted when federal rules are involved.

- Promptness pays. An owner must bring action within one year of the time the new law is applied to the property in question to have a "ripe" claim. It makes sense to move things along and avoid delays that could further burden the landowner. But, this provision could encourage frivolous suits just to assure access, and might foreclose legitimate claims for losses that take longer to become apparent.

Distribution. The Florida Property Rights Protection Act sets in motion an extensive and costly negotiation process. There is no sharp threshold of eligibility

requiring that an owner be compensated. That makes sense since, under the "bright line" approach—a reduction of 24 percent of land value would not be actionable and 26 percent would be always actionable. Given all of the problems with measuring land values, so sharp a test of eligibility makes little sense. But, defining "inordinate burden" is hardly an exact science, either. Gathering evidence will be expensive. Considerable case law will be needed to establish consistent standards for the inordinate burden. Since the public agency is immediately on the defensive, and the owner has the best information about his own property, the transaction cost burden would seem to rest with the public. The opposite is true under Constitutional takings cases where the property owner is taking on the legal system. This redistribution of the cost of achieving public purpose is exactly what proponents of the new law intended. Some private owners will be better able to manage the expense than others, presumably an unintended result (although the record shows that Florida's largest corporate landowners were the most active supporters of the property rights bill).

- Full employment for appraisers and economists. The initial claim for settlement must include an appraisal showing that reasonable investment-backed expectations have been undercut by the law in question. The agency will counter with its own appraisal. The obvious winners in all of this are the "experts" in economic value. Of course, Constitutional taking cases require costly information as well, but there are fewer such cases.

- Agency priorities. There are no new dollars appropriated to help agencies respond to demands for settlement. No new people will be hired to conduct negotiations. Few public agencies have growing budgets these days; people must be reassigned to get the job done. That means that the ongoing business of the agencies to implement the public interest in use of natural resources must be put aside to deal with compensation claims. Taxpayers pay for agency responses to landowner claims and pay in terms of other environmental benefits foregone by this shift in priorities. Thus, some citizens gain while others lose. Most of the owner actions thus far have been brought by large firms, so it is likely that the relatively wealthy improve themselves at the expense of the less wealthy.

- Deep pockets are useful. While the law is meant to apply to all owners who feel aggrieved by public regulations, only those with sufficient resources to fight through all the steps will venture into battle. A well-prepared case with a detailed appraisal is a necessary first step. If the owner fails to accept a reasonable settlement offer after the initial 180-day period, he or she could end up paying for the whole process. Only the wealthy can take that kind of chance.

- Who speaks for the general public? These proceedings are essentially behind closed doors. There are no hearings; no chance for the broader public to register concerns about the public good being bargained away by the agency. The public may want the agency to hold the line to protect natural features or historical buildings and would be willing to pay to protect those qualities, but they never really have the opportunity to say so. An aggressive, well-prepared owner may bluff a timid bureaucrat with public funds behind him into early settlement. Owners lucky enough to live in a community with a compliant, risk-averse public official may benefit substantially, while a neighbor may lose big with the same type of case.

- Beggar thy neighbor. There is concern that communities will be tempted to compete with each other to create the most permissive development environment (Vargus, p. 395-96). This was certainly not intended in the law, but incentives for that result are clearly there.

Conclusions and Recommendations for Policy Educators

Several overall conclusions about policy implementation emerge from the three cases reviewed.

Expectations—what might really happen. Changes in policy and the rules that put them to work alter long-term expectations of people dealing in the resource market. That, after all, is the *purpose* of policy change. People respond not only to the immediate change options, but also to what they think *might* happen in the future. Possible futures influence current actions. Landowners simply do not believe that ESA habitat modification rules are stable. They know that staff of the Fish and Wildlife Service are learning as they go and are basically unable to keep up with demands. Staff are trying to be responsive to landowner needs, but owners are nervous about what new rules may come along. Endangered species are hardly better off in that environment.

Observers of the Florida Property Rights Protection Act have stated that its real purpose is to make governmental agencies think twice about imposing new rules to protect a natural resource amenity at the expense of the private landowner. They do not expect a rash of claims, just enough to plant the seed of caution in the minds of the elected or appointed official. Environmental groups refer to the "chilling effect" of the possibility of expensive administrative and legal proceedings on the willingness of agencies to carry out their mandates. There have been several such instances reported in Florida already. Others may see this as appropriately shifting the burden of responsibility and, thus, generally restoring confidence in government (Powell 1995, p. 296).

Efficiency/distribution. As noted, there is always a political trade-off between efficiency and distribution in policy *implementation*, if not in the law itself. There is always pressure to spread the goodies around, to maintain a positive balance of support for the program and for the implementing agency. National and state efficiency are laudable symbols that are intellectually attractive, but fade quickly with the "reality of who." Few attend rallies for efficiency, except as a proxy for reducing their share of the cost.

Appeal of Voluntarism. Voluntary incentive-based environmental programs are definitely fashionable and can improve efficiency *within* a given firm by providing an incentive to achieve a defined goal at least cost. But, system-wide performance requires setting standards and other boundaries on the behavior of individual firms or governmental entities to assure consistency. Policy efficiency is simply not compatible with a highly decentralized decision system, with no consistent medium of exchange. Incentives would have to be very finely tuned to guide private actions in a collectively rational direction. EQIP implementation requires a tremendous amount of information to build incentives that guide private actions toward public purpose. There are overlapping levels of discretion—national priorities, state priority areas and individual farm bids for incentive dollars. There is an impressive, almost painful, effort to avoid any mention of mandatory action in EQIP. The program will accomplish some useful things, but "maximizing environmental benefit per dollar" is a dream.

Policy education. Useful education about resource policy must do far more than describe the provisions of a new law. In line with alternatives/consequences traditions, the educator must trace through both explicit and implied incentives of the law and implementing rules to judge net effects and their distribution. These observations can also be very helpful in revisions to the rules; educators can participate in these revisions with a clear conscience.

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Welfare Reform

The Why and How of Welfare Reform

Julie Paradis
Committee on Agriculture, U.S. House of Representatives

Introduction

The welfare of over 30 million people across the nation has been dramatically influenced over the last year by implementation of the welfare reform bill signed at the end of the summer of 1996. What drove this remarkable legislative effort, and how did we reach the requisite critical mass to enact such a grand experiment? Where do we go from here?

Scholars will debate the answers to these questions for some time. Let me share with you the perspective of a Capitol Hill staffer with one of the committees of jurisdiction.

Public Demand

In the 1992 presidential campaign, candidate Bill Clinton vowed to "change welfare as we know it." The Republican Contract With America, given much credit for the Republican takeover of the Congress in 1994, promised massive reform of the welfare system. The welfare rolls had grown dramatically between 1989 and 1994. The average monthly enrollment of families in the Aid to Families with Dependent Children (AFDC) program had gone from 3.8 million to 5.1 million. The average monthly participation of individuals in the Food Stamp Program had gone from 18.8 million to 27.5 million. Public confidence in our public assistance programs waned and the American public rallied behind the proposition of welfare reform. At a time of huge federal budget deficits, high unemployment and salaries not keeping pace with inflation, the specter of people getting something for nothing—that is, receiving welfare benefits but not working, resonated very unfavorably with much of the American electorate.

But, what did "welfare reform" mean? What did the American public really want? The devil being in the details, it took a number of attempts and a change in congressional leadership to finally reach consensus; a process that took over three years. The president sent his first welfare reform proposal, the "Work and Responsibility Act of 1994," to the Congress on June 21, 1994, a year and a half into his first term. He signed the "Personal Responsibility and Work Opportunity Reconciliation Act of 1996" on August 22, 1996.

The president's 1994 bill focused on the AFDC program and it would have required cash welfare recipients to enter into a contract designed to reinforce and

reward work, while the program provided support, job training and child care. It would have imposed a 5-year maximum time limit on benefits for many families, and reduced AFDC payments to legal immigrants. The bill would have made no changes to the Food Stamp Program, retaining it as the ultimate safety net for poor families. The president's bill was intended to reform the cash welfare program alone. The estimated cost was $4.8 billion over 5 years. Interestingly, Republican bills introduced during the 103rd Congress were in many respects similar to the president's, and also resulted in cost increases—not decreases. The president's bill was greeted by the Democratically-controlled Congress with little fanfare, as the public interest groups representing needy families expressed grave concerns over the implications of welfare reform. It was given a couple of committee hearings during the months remaining in the 103rd Congress, but the Democrats lost their last opportunity to control the welfare reform debate as the Congress was taken over by the Republicans in the election of November 1994.

At that point, the terms of the welfare reform debate changed. Budgetary savings became an element of the debate, and the Republican majority expanded the concept of welfare reform to include the federal nutrition programs and denial of eligibility for all public assistance programs to legal immigrants.

The original Contract With America proposal for welfare reform would have turned the AFDC program into a block grant program, capping spending and establishing a 5-year time limit on benefits. Stringent work requirements would have been imposed on welfare recipients. Ten nutrition programs, including the National School Lunch Program and the Food Stamp Program, would have been consolidated into one block grant, with a cap on funding. Legal immigrants would have been denied eligibility for welfare benefits. Estimates of budgetary savings that could be realized from this initial Republican offering ranged from $40 billion to $57 billion over 5 years.

Significant changes to this bill were made by several of the committees of jurisdiction as it worked its way through the legislative process. The proposed reforms to the cash welfare program, AFDC, were largely unchanged, and legal immigrants saw no improvement in the provisions denying them program eligibility. The reforms of the nutrition programs, however, were scaled back, and the underlying structures of those programs retained; they were not block granted. Widespread public support of the National School Lunch Program, tapped by the Democratic minority, eroded Republican support for block granting and capping that program. The Republican leadership of the House Committee on Agriculture persuaded the House leadership to back away from the concept of turning the Food Stamp Program over to the states in block grant form, arguing that as welfare programs were returned to the states, it was important for the Food Stamp Program to provide a federal social safety net.

It has been suggested that the leadership of the House and Senate agriculture committees also realized that the upcoming farm bill legislation to reauthorize most of USDA's programs, including the Food Stamp Program, would need the traditional support of members from urban districts. Because the Food Stamp Program plays a critical role in the support of the many poor families living in these urban districts, such urban support would be eroded if the Food Stamp Program had been block granted. Instead, the program was reformed to discontinue most of the automatic benefit increases that resulted from adjustments for inflation, to impose limited eligibility on able-bodied individuals between the ages of 18 and 50 who have no dependents, and to enhance USDA's ability to curtail program fraud and abuse.

The bill vetoed by the president in December 1995 would have block granted and capped cash welfare, provided a $1 billion contingency fund, imposed a 5-year lifetime limit on cash benefits, provided $9.9 billion for child care for welfare families, imposed a family cap, and restricted eligibility for Medicaid. It would have denied legal immigrants eligibility for all public assistance programs. It would have reduced food stamp benefits by eliminating cost of living adjusters and denying eligibility to unemployed able-bodied individuals between the ages of 18 and 50 who are without dependents. The bill signed by the president in August 1996 increased the contingency fund to $2 billion and child care funding to $13.9 billion. It greatly expanded Medicaid coverage beyond what would have been permitted under the vetoed bill.

Balancing the Budget

For many years, federal policy has often been driven by budget considerations. Nowhere has this been more obvious than in the debate over welfare reform.

Both the president and the Republican leadership had committed to balancing the federal budget in seven years. The Republicans decided that welfare reform should be made a part of the budget process. Over time, this decision drove up the welfare savings, and insulated these program funding reductions from some opposition. Controversial legislation is more likely to pass if it is included in an omnibus budget bill that members are likely to support.

Indicative of the determination to use welfare reform as a means to help balance the budget was the fact that the decisions on the legal immigrant provisions were made at the House Ways and Means Committee and the Senate Finance Committee — committees with jurisdiction over revenue and public moneys matters—rather than at the committees with jurisdiction over the various public assistance programs. The denial of public benefits to legal immigrants provided a significant percentage of the overall savings of welfare reform.

Once the commitment was made to pursue welfare reform in the budget, savings targets were imposed. These targets became more difficult to achieve with the subsequent decision that the nutrition programs would not be sent to the states as block grants with funding caps. The governors urged the Congress to maintain the then current funding levels for cash welfare, and President Clinton eventually succeeded in getting additional funding for child care for the children of parents who would be moved to the workforce under welfare reform. These concessions required that additional savings be found in the food stamp provisions and the provisions denying eligibility to legal immigrants, but they also made it virtually impossible for opponents of the food stamp and legal immigrant provisions to prevail. Those opponents could not overcome the impact of the savings targets.

The original welfare reform bills of 1994, designed to help people on welfare achieve economic self-sufficiency, would have actually cost taxpayers money. The final welfare reform bill signed in August of 1996 saved over $54 billion.

Different Players

For the first time in decades, liberal Democrats and advocates for the poor had only a marginal impact on welfare program changes. State governors wielded unprecedented power over welfare reform deliberations.

Traditionally, the three entities that have most influenced welfare policy have been advocates for the poor, state program administrators, and federal program administrators. During the welfare reform debate, governors or their representatives were frequently consulted by the congressional majority, while discussions with anti-poverty groups and Democratic members and staff were very infrequent.

After the president vetoed the first welfare reform bill, officials of the administration negotiated legislation acceptable to the Republican leadership of the Congress and the president. A channel to the administration gave congressional Democrats somewhat more input than they had enjoyed in the earlier debate.

Reform Modifications

As popular as the concept of welfare reform is, reaching agreement on its specifics was not easy and may not yet be over. Although the second welfare bill sent to the president was acceptable to him, it was not acceptable to several of his welfare advisors; three of them quit the administration over the decision to sign the bill. In fact, when the president signed the measure, he promised that he would seek legislation to ameliorate what he perceived were its harshest provisions.

The administration's budget proposal for fiscal year 1998 would have provided funding for a welfare-to-work program, restored Supplemental Security Income (SSI)

and Medicaid eligibility for specified categories of legal aliens, reduced the adverse impact of a number of food stamp reforms, and restored Medicaid eligibility for certain children who lost SSI eligibility.

A stronger than anticipated economy allowed several of these proposals to be included in the recently enacted Balanced Budget Act (BBA). Signed by the president on August 5, 1997, it will increase direct federal spending over 5 years on welfare programs and the Food Stamp Program by almost $15 billion.

The BBA establishes a 2-year program of welfare-to-work grants for recipients of the cash welfare program. Grants will be allocated to states to be used for job creation, on the job training, contracts with public or private providers of readiness, placement, and post employment services, job vouchers, and job retention or support services. Eligible entities for these grants are private industry councils, political subdivisions, or private entities. Seventy percent of the funds must be used for the benefit of long-time recipients with specified barriers to employment or who are about to lose their benefits due to the 5-year time limit on program participation. This grant program will cost $2.7 billion.

Supplemental Security Income (SSI) has been restored by the BBA for elderly and disabled legal aliens. This restored SSI eligibility automatically renews Medicaid eligibility for these aliens. These provisions will restore approximately $11 billion in benefits over 5 years.

The Food Stamp Act was amended by the BBA to provide additional funding to states to establish employment and training slots for childless able-bodied 18 to 50 year old recipients who are in danger of losing food stamp eligibility because they have been unable to find employment. Those recipients placed in one of the new slots will retain food stamp eligibility. The Congressional Budget Office has estimated that these provisions will cost $1.5 billion.

A number of proposals to modify welfare reform have not yet found the requisite level of support to be enacted. Perhaps the proposal with the highest profile in this regard is one requested by several states to exempt cash welfare workfare recipients from the protections of the Fair Labor Standards Act (FLSA) and other labor laws. The Clinton administration has determined that the FLSA requires that cash welfare recipients in workfare jobs be compensated, with their cash welfare benefits, at no less than the minimum wage. In other words, these recipients cannot be made to work for their benefits for more hours than their benefits will support relative to the minimum wage, in spite of the fact that welfare reform requires that they work at least 20 hours per week. The Republican Congress tried to include the exemption requested by states in the BBA, but Democratic members and the administration (supported by organized labor) resisted, and the provision was not included in the bill signed by the president. Further attempts to enact this exemption are expected.

Beginning on August 22, 1997, most non-citizens became ineligible for participation in the Food Stamp Program. Advocates for non-citizens continue to work for reinstatement of food stamp eligibility for this group. At a minimum, eligibility is being sought for the children of legal aliens and those who are elderly or disabled. This proposal was included in bipartisan nutrition legislation, which was introduced in the House of Representatives on April 30, 1997. It was intended to restore funding reduced by welfare reform. This bill, the "Hunger Has A Cure Act of 1997," would cost greater than $7 billion over 5 years.

Advocacy Focus

The failure of another proposed welfare reform modification to be included in the BBA demonstrates the increasing focus of anti-poverty advocates at the state level, given the broad discretion granted to the states by welfare reform. That proposed modification would permit states to administer welfare programs and the Food Stamp Program through contracts with charitable, religious or private organizations. Welfare reform would permit such a contract to administer the cash welfare program, but the statutory authority for the Food Stamp and Medicaid programs requires that eligibility for those programs be determined by a *public official*, a requirement not contemplated by an expansive view of the concept of privatization.

For many months, the state of Texas sought the approval of the Clinton administration for a waiver to permit it to hire a private corporation to administer Temporary Assistance for Needy Families (TANF), the Food Stamp Program and Medicaid. Believing that it did not have the statutory authority to grant such a waiver, the administration rejected Texas' request. The Texas congressional delegation sought to include a provision in the Balanced Budget Act to permit the Texas project to go forward. The administration, strongly backed by the AFL-CIO and government unions, opposed this legislative effort.

Meanwhile, groups representing welfare recipients in the state of Texas had persuaded the Texas legislature that the privatization proposal warranted a second look. Although Texas claimed that such a contract, valued at $2 billion over 5 years, could save the state $100 million per year, local opponents cited the cost over-runs of similar government contracts awarded by other states to the two principal competing contractors, Lockheed Martin and Electronic Data Systems. Fearful that up to 15,000 state jobs might be eliminated and that kiosks would be used to serve welfare recipients, state anti-poverty groups opposed the state proposal. The Texas legislature, prior to final congressional passage of the BBA, passed legislation requiring legislative oversight and public input of any privatization plan. Ultimately, the concerns raised by local groups with the Texas legislature, coupled with pressure from the unions and the administration in Washington, caused the proposal to lose momentum in the final stretch and it was not included in the BBA.

Just as the federal welfare reform bill transferred responsibility for the welfare programs to the states, a number of states are now passing the responsibility down to counties and other local governmental entities. The most recent example of this devolution occurred in North Carolina, where the state legislature gave authority to 30 counties to determine the level of cash welfare benefits, the eligibility criteria, and the work requirements for poor families applying for welfare. Advocates for the poor must now marshal their resources to monitor and attempt to influence program development and implementation, not only at the state level but also at the local level.

Research is Critical

Where does the safety net stand today? Let's look at the benefit reductions in the Food Stamp Program, the program retained to provide a federal social safety net. Under welfare reform, 6.7 million families with children will receive $430 less in food stamp benefits in 1998 than they would have received if welfare reform had not occurred. The 1.76 million families with elderly members will receive $165 less in food stamp benefits. In 1998, food stamp households with incomes below half the poverty line will lose an average of $650 per year in food stamp benefits. Most legal immigrants lost eligibility for food stamp benefits on August 22, 1997.

Comprehensive research is vital to learn the full impact of welfare reform on low income families. Research is critical to determine if program improvements are necessary and to decide what those improvements should be. Most of those involved with the effort to develop our new welfare policy would agree that, with time, we will learn which changes have been successful and which will require modification.

To maximize the effort to help move poor individuals and families to positions of self-sufficiency, we must know why some succeed and others fail. If the welfare reform initiative is to be maintained, research studying the impact of welfare reform on recipients, former recipients, and those who would have been eligible had welfare reform not made them ineligible must be conducted so that improvements can be made to maximize the benefits of welfare reform. To effectively monitor the reform effort and respond appropriately to calls for improvements, policy makers must have access to the best possible data and not be forced to rely on anecdotal evidence.

What is Next?

The next challenge for the states, the Congress and the administration is to ensure that welfare reform works, that those not working get jobs that will make them self-sufficient, and that the cycle of poverty is broken for millions of poor households.

Welfare reform may indeed work for those people willing and able to work, given a strong economy. Many argue that such people would have found work even without welfare reform. Indeed, it has been suggested that the twenty-five percent reduction in the welfare rolls since early 1994 is not the result of welfare reform but, rather, is the result of the strengthening economy.

It is unlikely that welfare reform will work for those with no skills, with mental disabilities and health problems, and with poor work habits. It is likely that the welfare rolls will again swell when the economy weakens and jobs become more scarce.

What, if anything, is the responsibility of the various levels of government toward those who fall through the safety net through no fault of their own? Only time can tell how we will answer that question.

Welfare Reform: A State Perspective

James Clark
South Carolina Department of Social Services

Oscar Wilde, the poet, once wrote that "All bad poetry was sincere poetry." Social policy in the United States, like bad poetry, is always sincere in its intentions, but it is not always good policy. To understand the predicating factors that led to welfare reform in the United States, and to understand where we've come from and where we are at today, requires that we look historically at the evolution of reform of the current Aid to Families With Dependent Children (AFDC) cash assistance program. Social policy "experts" and others who are concerned over the changes occurring in social welfare need to consider the demand for reform in the context of the evolution of social services from colonial days up through the passage of the Social Security Act of 1935, the explosion of means-tested programs in the thirty-year period that commenced in the late 1950s and, finally, the passage of the recent welfare reform legislation that we now refer to as TANF (Temporary Assistance to Needy Families).

An Historical Perspective

In the early history of this country, if we go back to the immigrants that came here, we were largely an agrarian people. Growing your own food and the personal responsibilities of citizenship in the colonies brought with it something that was different because we were no longer subjects or vassals of an hierarchical authority structure. Our forefathers were citizens, not subjects. Open land and a demand to be free from the class-ridden social institutions of government in Europe brought risk takers to the shores of the continent. Early foreign commentators who viewed the American scene saw a yeoman farmer with his small parcels of land fending for himself in a hostile new environment and creating personal opportunity. They were struck by this former peasant's sense of equality and personal liberty. Alexis deTocqueville, in his book of 1831, *Democracy in America*, noted this fiery quest for individual authority and self direction. DeToqueville was concerned that the emphasis on equality, both for Americans and Europeans, would eventually lead to a bureaucratic leveling and a loss of individual liberty. He feared that the weak would bring down the strong and that the search for equality would lead to a common baseness that might undermine intellectual leadership and principled government.

Frederick Jackson Turner, a turn-of-the-century historian, offered a thesis that stressed the idea of vast areas of open agricultural land which acted to define the American character. It was agricultural opportunity that brought an entrepreneurial kind of person to the country and, in due course, fabricated an individualistic American culture. This spirit of individual and familial responsibility

led to almost an absence of government social policy that could or would respond to problems of an unequal distribution of wealth and resources. People were expected to take care of themselves. There existed some early colonial assistance from local government and church groups with roots in the European experience that the early settlers brought with them. What social policy did exist had its origins in the English poor laws that dated from the 1630s with the laws' emphasis on the worthy and unworthy poor. Persons who were in need through no fault of their own—the aged, the disabled and orphans—were viewed as a community responsibility. But, persons who were poor from a deficit of morality or responsibility as viewed by the mores of the time were treated less kindly.

The social observer of 18th and 19th Century America did not find an organized set of social welfare institutions. You certainly did not find much federal legislation in the area of social service programs. There were small community responses because there was still a belief in community and family and church at the local level. If children were orphaned—if their parents died in an accident—the town council would negotiate a contract with a farmer and his wife to raise the youngsters and provide them with the tools for becoming a farmer or a farm wife. There were alms houses or poor houses but these were largely limited to the cities of the northeast. There was a differentiation, though, in the public mind between the worthy poor and the unworthy poor. This separation in value went back to England again, to the English poor laws. That is, if you were poor through no fault of your own, if it was something that happened to you, then the community should do something and respond to it. But, if you were a drunk or you brought your own misfortune upon yourself, there was less of a compassionate response by the local community. If you were destitute and walked into a small town in the United States during the 19th Century, the local sheriff would generally escort you to the edge of town and say, "So long, because we're not going to take care of you. You are not part of our local group."

The absence of federal social policy is interesting because when we think about the evolution of social policy, we realize that the world we are in now is of our recent making. During the 19th Century, there was very little federal social policy legislation. Madison's interpretation of the Tenth Amendment to the Constitution, as laid out in the 42nd chapter of the *Federalist Papers*, said that the power of the federal government was a limited one and that issues of social policy should be left to the states and the people. Early federal laws that affected the states or local communities were very limited. Certainly, the land grant colleges legislation in the mid-19th century and the Homestead Act of 1862 were significant pieces of social legislation. It was the first movement of the federal government to say that the national government should do something other than deal with international issues or interstate commerce. But even then, when the homestead legislation of 1862 was being debated, it was not perceived that they were doing something for people as much as they thought that it would stimulate the growth and fuel the entrepreneurial

and agrarian spirit that had been so important in defining the national character. Up until that time, the federal government had been selling the surplus land for amounts ranging between 12 ½ cents and $1.25 an acre, depending upon the quality of the land. Congress believed that the homestead legislation would strengthen the idea of participatory democracy because farming and land ownership was rooted in that Jeffersonian ideal of the small farmer and the self-reliance of the individual.

Federal legislation in the 19th Century dealing with local issues was very limited. There was some child welfare legislation about work hours, and there was legislation at the turn of the century related to the inspection of slaughter houses, but Washington—either from an executive or a congressional perspective—maintained a hands-off policy toward local and state responses to poverty.

The Social Security Act

Suddenly, in 1935, we had a dramatic shift in the non-interventionist traditions, and that occurred with the passage of the Social Security Act. The Social Security Act was directed at three groups of people. It was directed at the aged, the blind and the disabled. This focus insured that the philosophy of people being independent and taking care of themselves was still at play. However, there was a West Virginia Senator who recommended that we alter that legislation by adding to it one group not originally envisioned, and that was widows and orphans. The year 1935 was a time of economic depression and accidental death in the mines. Many men had been killed in the mines or had left home to find work and never returned. The widows and orphans addition was not perceived as being out of step with the traditions of self reliance.

In addition, this was a time of growing power among labor unions that was translated into legislation. The rhetoric of labor pitted government and business against the working poor and class distinctions was accentuated to further the argument that poverty was the fault of business and government. It is of interest in today's welfare reform climate to note that Franklin Roosevelt opposed the amendment that added women and orphans to the Social Security Act legislation because he believed it would lead to dependence and undermine the work ethic. The "widows and orphans" amendment became the Aid to Dependent Children (ADC) program (predecessor of the Aid to Families with Dependent Children (AFDC) program) that TANF changed and is now the subject of so much discussion and debate. The legislation was a federal effort to intervene at the state and local level to assist the children of women who had been harmed because their husbands were victims of mining accidents, or where husbands had left their families in the Depression to try and find work and had not returned. The congressional debate at that time saw the assistance as temporary, and expected most women would re-marry. Although we were going to have welfare, it was going to be temporary. Assistance wasn't going to be something that was going to be long lasting or a condition of life. When the

legislation became law, only 1/17th of one percent of the 1936 population became eligible for the new ADC program.

The initial federal effort to alter what had been a local and state approach to social policy continued until 1950. Congress amended the Act in 1950 to include mothers because up until then, the widows and orphans provisions of the Social Security Act only provided assistance to children. With the end of the World War II, there was significant unemployment for women in the urban cities as "Rosie the Riveter" was displaced by returning veterans.

Suddenly, toward the end of the 1950s, there was a second dramatic shift in American social policy. Congress began to perceive of the poor differently. The distinction of the worthy and unworthy poor and the limitations surrounding assistance only to persons who could not take care of themselves vanished. Our leaders began to say that people were poor because of failures of government. People were poor because of unequal educational opportunity, racism, a non-equal distribution of wealth and resources, and poverty, therefore, was a sin of omission by local, state and federal authorities. That is, government had failed to do what it was supposed to do in creating the level playing field that had historically been inferred in the discussion of personal responsibility and self reliance.

Once we had accepted the proposition in our legislative and academic institutions, the nation was ready to make the transition to seeing poor people as victims. To believe poor people were victims of a failure of government was to suggest that they were entitled to compensation and that government should do something to bring relief. In the ensuing 30 years, the country saw an explosion of means-tested social services programs. We went from almost no means-tested programs prior to 1935 to over 300 different means-tested programs in 1995. Federal social policy moved from one that saw domestic issues involving issues of personal and family dysfunction as state and local issues to one that saw a need for federal intervention. The nation went from a perspective that believed individuals were responsible for themselves to a perception that the government was responsible for the individual.

Institutionalizing Poverty

Although our motives were altruistic, something happened that advocates for the poor had not intended. Something pernicious affected this altruistic endeavor. We created a welfare institution and we institutionalized poverty. We began a process that dispirited people. We created institutions that indirectly said to people, "You are a failure." In welfare offices across the nation, you will see little plastic chairs in waiting rooms where people are told to sit for hours awaiting a terse discussion with their welfare worker. The chairs are usually red and white, or green and orange, or

some color, and there is a window with a slot in it with a bureaucrat behind it, and two doors on each side that say "Staff Only." If you go in and apply for assistance, there will be people that will say, "Mary, you just sit over there, and as soon as we can get to you, we will." The philosophy and values that developed over a period of time treated people as losers. It said, "Look, you are a loser. You cannot make it. You cannot compete in this society. You do not have the skills. You do not have the intelligence. But we, the state, are going to take care of you because we in government really care about you. We have altruistic motivations. We have got a little public housing over here and we are going to put a roof over your head. We have got the food stamp program and we are going to put food on your table. We have got an AFDC check for you. We have got a low income energy assistance program. We have got a school lunch program. We have all of these different programs. We are going to help you out because you are not capable of taking care of yourself. Most of these programs are in-kind which means that you do not get the money for your need. You receive a voucher that entitles someone who provides a service to you to get the money. If we gave you the money, you would spend it in an inappropriate manner because you are irresponsible."

When we have the "customer" on the ropes and sufficiently convinced that our largess is all that stands between them and death, we apply the finishing blow. The concealed rhetoric of misplaced comparison sounds like this: "By the way, to ensure that you are eligible for all this assistance, I have got some questions I need to ask you. I know your type and, if I am not very careful, you will cheat the taxpayers and get assistance to which you are not entitled. Not only are you a loser and irresponsible, but you may be dishonest. Now, let me see that rent receipt from last month and are you sure you have not told me about a cemetery plot that you own, or insurance policy that you could cash? Because not only are you a loser, not only are you a failure in life, but you are probably also a crook, and I need to ask you these questions to make sure you do not cheat us out of any money."

Now if we treat people that way, even though our motives originally may have been altruistic, we dispirit people. We sap the energy out of them, and we destroy the concept of participatory democracy. We do harm to that aspect of citizenship intended by our founding fathers and our victim no longer carries that pride of citizenship so admired by deTocqueville. That special aspect of equality where citizens believed they were equal to everyone else in society is lost. When government takes that away from its citizens, it breaks a spiritual bond more important than the value of the services it provides. By denying them hope of future success, we are failing those we seek to help. This is what welfare reform is attempting to reform. Can we restore hope and create visions of success for people? Is that possible? I do not know. I think we are trying and we understand the problem. The practical change of law is small but the philosophical change is tremendous in terms of the values of the institution of public welfare.

The "Mudsill Argument"

Lincoln signed the homestead legislation in 1862, and I think it is interesting to reflect upon that because it was 135 years ago that he also issued the Emancipation Proclamation that freed the slaves in this country. I think it is kind of interesting to be in South Carolina today and to recognize that we are just a day away from the 135th anniversary of that statement. When Lincoln did that, he did it with a perspective that what he was going to do, or Congress did in 1866 with the Southern Homestead Act, was give property to people and that when he gave property to people, that would infuse them with some kind of energy that would be reflective of the broader society. Freedmen and western settlers would be able to live the Jeffersonian ideal of self reliance. The former slaves, the "freedmen," as they were referred to in 1866, could become full participants in the American dream.

When Lincoln was running for the presidency in 1859, he gave an address in Indiana to an agricultural group and he was asked about something that in those days was referred to as the "mudsill argument." A debate was taking place between the abolitionist journals in New England and the pro-slavery journals in the South. In South Carolina, there was a journal called the *McLeod*. In that journal, they referred to something called the "mudsill argument." The "mudsill argument" suggested that the slave holders, the apologists, were really engaged in a selfless socializing act and that slavery represented a beneficent act on the part of slave owners. Slave holders owned their "property" and, as such, were careful to protect and maintain it. The slave holders provided housing and took care of their property when the slaves were sick. Being a slave holder was really a wonderful, altruistic act because it took care of people. In the North, where you had the mills, according to the apologists for slavery, workers were treated terribly. If you got sick, they fired you. Children were forced to work under terrible conditions in the North. Business owners and merchants cared nothing about those in their employ. Slavery was a wonderful thing. Someone asked Lincoln, when he was giving this address in Indiana, how he viewed the mudsill argument. Lincoln thought for a moment and said, "Well, you know, if slavery was such a great thing, everybody would be running down South to become slaves, but they are not doing that."

In his slow Kentucky drawl, he made a point that we are learning again today. He said there is something about individual liberty, about a person's being able to strive to take care of themselves, to do things in their own interest, to have a possession that is more important than having a caring master. Lincoln knew that the founding fathers of our country and the philosophical building blocks that made us strong were at risk in a nation that was only half free. He understood, like John Locke, that for representative democracy to work, there must be a contract between the people and their government, and that the idea of a contract inferred a relationship rooted in holding land that one could farm, and being responsible for your country. He believed that it was the responsibility of the state to create opportunity and to

forge a level playing field. He understood that people were unequal in their different abilities, but it was a government task to allow every citizen to become all that they could be.

A Need to Change

Following the big change in 1935, intermittent smaller changes occurred in the years up to 1950 when the mothers of dependent children were added to the entitled family group. What was most pronounced in the changes was a paternalism and a *noblesse oblige* attitude that had values reminiscent of those associated with the "mudsill argument" of the 19th Century. The social programs created between 1935 and 1995 occurred during a time when almost all of the demographic measures that one would associate with good social policy were moving in a counter-indicative manner. Average Americans knew something was amiss. Somehow, all of the efforts that we had made to help people were not bringing about the changes that taxpayers and the middle class expected from government. Our divorce rate went from 1-in-6 in 1940 to 1-in-2 in 1990. The number of single parent households went from 6 percent of all families to 30 percent of all families, and among African-Americans, it now approaches 60 percent of families. Clearly, the social policies that were developed in this 50-year period were not working to stem the impact of an international economy, drugs, and a selfish individualism that brought a "me first" attitude to marital and social responsibilities. The advent of a paternalistic federal policy cannot in itself explain all of the demographic changes.

Clearly, there were other reasons dealing with a macro-economic discovery of the assembly line in foreign countries, changes in education and other things abroad, and the world economy. But just as clearly, our social policies had not addressed those world-altering changes. We had not made democracy stronger. We had weakened it. We had not made the world better for children. We had weakened it. We did not do the things that we intended to do. That brought us to the conclusion that, somehow, we needed to change the system in the same way that the first Republican president, Abraham Lincoln, did when he rejected a country that was only half free. I think that the Republican Congress of today said we needed to change things much as Lincoln's Republican Congress passed the Homestead Acts and brought in the Sixteenth Amendment to the Constitution.

You are seeing it in South Carolina. You are seeing it across the country. Welfare rolls, since the passage of that Act, are down 24 percent from the levels they reached in 1993. South Carolina is one of the states that has had the greatest reduction. We are down, just in the last 2 ' years, by 44 percent. There are several states—Wisconsin, Tennessee, Wyoming and Oregon—who have experienced declines similar to that of South Carolina. There are a couple of states—California and Hawaii—where welfare rates have not fallen, or fallen only slightly, but the rest of the country has seen a diminished number of AFDC recipients. Our welfare expenditures in AFDC in the past two years in South Carolina have gone from approximately $9

million dollars a month to $5 million dollars a month and we are putting over 1,000 AFDC recipients a month to work.

There is a belief by critics of the reform movement that welfare reform will lead to devastation for poor mothers and their children. The list of "horribles" may not have happened yet, but surely as we reach the "truly disadvantaged," the critics believe society will witness a social crime against humanity. Visions of crime in the street and women sleeping on open grates are common in the rhetoric. That has not happened. People have gone to work. We think that will continue. Government will need to be there and continue to play a role, but the real reform has to occur within ourselves. Real reform has to occur within the government/welfare institution. We need to change the welfare workers from those who treat people in a bureaucratic and demeaning way that crushes the spirit to workers that offer a vision and hope for people. We need to create an expectation of the future that says to the welfare recipient, "You can be successful." As a society, we need to move away from the kind of society where people find value in themselves by their title and how much money they have, and begin to see people in a different way—reflecting upon the value of the individual. If we are a religious nation, we need to acknowledge that God exists in each individual and that each one of us needs to treat other people with dignity and respect. We need to look to our churches, to our communities and to ourselves to try and change welfare from what it was intended to do and what it became to what it should be—a stepping stone to participation and economic inclusion.

If we look at welfare rates across the country, we see that they are quite different, even though the welfare declines have been significant. Depending upon how you define welfare, we continue to see a problem. For example, in California, the percentage of people who receive AFDC is 7.5 percent. That is 7.5 percent of the entire population and quite different from the program that was 1/17 of one percent of the population when it was first created. That is three times the rate that it is in South Carolina. So, you have to look at the context of the rate of the incidence of welfare in each state before you can make a determination about what the declines mean.

A Look to the Future

What happens now? The nation will continue to see a movement of the dollars and programs from the federal government to the states. Devolution is real. There will be an increased emphasis on the Tenth Amendment and states will enjoy increased discretion in the area of social policy. As our nation strives for a balanced budget, states and local communities will be expected to shoulder more of the burden of the poor. Time limits for welfare recipients are already causing a change to occur in the attitudes and perspectives of welfare recipients.

Time limits are understood by those who were long-term recipients of welfare. We are going to see more movement from rural communities to urban areas where

there are more employment opportunities. The problems of rural transportation and of opportunities for employment in rural areas will be a continuing source of friction in welfare reform discussions. Those of us active in welfare reform will continue to see a growth in service sector employment and fewer jobs that will pay middle-class wages. I do not anticipate that employment programs that have their expectations in remedial education and training will meet the expectations of those who advocate for them. I know that there is a lot of rhetoric about that, but I think that if we are honest and we look out across the history of employment and training programs in the country, that training and education efforts—whether they be adult basic education or vocational education—have had limited success in working with welfare recipients.

To be sure, there are some welfare recipients who can and will benefit from education and training, but they will be a minority of those we serve. Most welfare recipients will benefit from work-related activities because even minimum wage jobs provide more income than AFDC. Those of us who have been doing this for years—in South Carolina and throughout the country—have found that what works best is *work*. The more one works, the more likely they are to work in the future. There are probably 20 percent of AFDC recipients who could benefit from improved education opportunities. But, for the vast majority of recipients, education and training that is not related to an ongoing occupation will have limited utility. Many welfare recipients will go to work at the minimum wage and will experience minimal increases in their wages. They will need to receive child support from the fathers and continued assistance from non-cash, in-kind programs. That is why child support enforcement initiatives that were incorporated in the welfare reform legislation need to be emphasized and efforts made to find employment for the men who help to bring children into the world.

I think that the previous speaker was partially correct in saying that we still do not know a lot and we need to research the TANF legislation. There has been a good deal of research in this area and we know many things that do not work. One of the things that works best in government is to stop doing what does not work. I think that is what we are about, in part, in welfare reform. There is an old Zen saying that "where there is great doubt, there will be great awakening; small doubt, small awakening; no doubt no awakening." That is true of welfare reform.

I started with an Oscar Wilde quote and I will end with another quote by Oscar Wilde. It was said that on his deathbed, when he was down and out in Paris, he looked up and his last words were, "Either this wallpaper has to go, or I do."

Welfare Reform: The Land Grant University Response

Bonnie Braun
University of Minnesota

The Stimulus—A Call for Action

In 1995-96, our nation re-examined the social contract held with various groups for years—farm subsidies, Social Security, Medicare/Medicad, food stamps and assistance to families—welfare. At issue, in the case of welfare reform, were the causes of poverty; need for, and sources of, assistance; solutions; locus of control and funding. The debate often lacked empirical evidence and was frequently fueled by personal values, opinions, emotions and prevailing wisdom.

Such a situation presented an opportunity for inclusion of voices with authority and concern about the well-being of the children, youths and families, as well as of the nation. The conditions were right for the resources of the land grant university system to be mobilized—for its expertise to be applied to the problems, issues and opportunities surrounding welfare reform.

The purpose of this paper is to briefly explain some of the responses between 1995 and 1997, and plans for continued involvement in welfare reform.

The Opportunity

In general, the intent of welfare reform was to hold adults personally responsible for the self-sufficiency of themselves and their families. Such an intent requires that families have the skills to obtain, maintain and manage their total resource mix—personal, family and community—in ways that serve the individual, family and society.

Passage of the federal Personal Responsibility and Work Opportunity Reconciliation Act of 1996 changed 61 years of "welfare" programs as we have known them. A driver for this change was the belief that better decisions about financing and providing support services could be made by states and counties.

Better decisions can only be made if the people making the decisions respond knowledgeably to the opportunity—to move beyond welfare for poor families to the well-being of all members of our communities. Wise decision making early in the reformation process, when communities have increased say in designing and shaping assistance programs, will pay dividends into the 21st Century as parents and their children increase their ability to be personally responsible and self-sufficient. Thus,

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the need for expertise, based on family-centered research, presented the opportunity for the family and consumer sciences profession, formerly known as home economics, to engage in public policy education (Bauer and Braun).

The Response: Mobilization of the Land Grant System

Historically, the land grant system has the mission of discovering and disseminating knowledge, extending expertise and contributing to the public work of citizens. The land grant system, with its sister universities and its federal partner at USDA, was, and is, uniquely situated to bring its research into the public policy debate through its outreach arm—the Cooperative State Research Education and Extension Service (CSREES). CSREES is continually challenged to extend the expertise of the land grant system to help people prevent, reduce or resolve problems and issues and to find opportunities to improve the quality of life.

Therefore, public policy makers, with frequent input from citizens, fund the Cooperative Extension Service (CES) through a unique cooperative arrangement of public and private contributions of tax dollars, donations, grants, contracts and volunteer time and talents. Its means of education—enabling people to apply research where they live and work—is the important public work of the CES.

The creation of the nationwide CES in 1914 grew out of the renewed thinking of the late 19th Century that government is an instrument of citizens, and that citizens need the capacity for public work and self action (Peters). The CES was charged with development of those capacities through widespread education. According to Harry Boyte at the University of Minnesota's Hubert H. Humphrey Institute, the CES of the late 20th Century stands as an example of a government program that continues to have potential to regenerate widespread civic capacity (Boyte and Kari). Thus, the CES is challenged to partner with citizens to strengthen their capacity for informed action—for building what Boyte calls "civic muscle."

Civic muscle is democracy of the people, by the people and for the people. It is "people power" from the Greek meaning of democracy—"demos," meaning people and "kratia," meaning power. It is people engaging in important public work to "meet common challenges and build a common future." Welfare reform, with its shift to state and local decision making, presented another opportunity for the nationwide system to support citizens in that work. Seizing the opportunity, the Board of Human Sciences (BOHS), of the National Association of State Universities and Land Grant Colleges (NASULGC), responded.

NASULGC Board of Human Sciences (BOHS). In January, 1995, BOHS, through its Legislative Committee, accepted the challenge of engagement in public policy by addressing the meaning of welfare reform in contemporary society. The committee monitored legislation, offered a set of principles—based on family

research—to test proposed legislation and critiqued legislation both through direct contacts with Congressional delegates and staff, or indirectly through the services of AESOP and staff at NASULGC.

Until the signing of the legislation on August 22, 1996, the BOHS mobilized its members to share research and principles. A report, *Welfare Reform: Social Justice for Children and Families*, was updated and distributed. It has served as a foundation for families' understanding of assistance programs since 1935.

After the legislation became law, the BOHS convened two think tanks at the University of Georgia to identify strategies to further mobilize the resources of research and outreach throughout the system. Recommendations were adopted and a Rapid Response Team authorized to conduct a satellite broadcast and convene a national conference. One was held in January 1997; the other in April 1997. The findings of the conference are posted through the web sites of the University of Minnesota (CYFERNET); USDA Cooperative State Research, Extension and Education Service (CSREES) and the National Association of State Universities and Land Grant Colleges (NASULGC). A list-serve was created to encourage communications. (For web site information, see *http://www.cyfernet.umn.edu/welfare*.) Following the conference, a steering committee was formed to guide the work over the next several years. Subcommittees are focusing on research, extension/outreach, academic programs, legislation, communications and capacity building.

The NASULGC Response. Peter Mcgrath, President of NASULGC, first spoke to the importance of engaging the land grant system in welfare reform at the national meeting in November 1996. The next three issues of the newsletter carried articles about welfare reform. An internal committee and an external coalition were created. Staff monitored legislative changes, particularly in the budget bill that passed in the summer of 1997. A general session at the 1997 annual meeting will focus on welfare reform.

The NASULGC Extension Committee on Policy (ECOP) Response. ECOP responded by creating a task force which is to encourage programming directed at people moving off welfare into the workforce; people trying to stay off public assistance; employers who are hiring people off welfare; agency personnel coping with changes in the system and citizens through continued public policy education. They also created a Workforce Preparedness Task Force.

CSREES Response. The CSREES at USDA is actively engaged in welfare reform through its task force. They collaborated with NASULGC and the Economic Research Service to plan and execute the April conference. They are seeking funding to support web-based information dissemination and have identified faculty or administrative contacts in each state. They are serving on the various committees and task forces identified above.

Rationale for Continued Involvement

There continues to be a contemporary need for additional research to both monitor change resulting from welfare reform and measure impact—on children, youths, families, communities, businesses, etc. These research needs have applications at the national level for future policy making, as well as at the state and local levels where the impact is most direct. There is a need for analysis of research done by others outside the land grant system. Who is better situated to conduct research and analyze findings than the faculty and students of the land grant system? Additionally, in understanding the impact on children and families where they live and work, who better than the community of human, family and consumer sciences and their allies?

In addition to the discovery of knowledge, there is a major need for disseminating the findings of all research to those who need to make and implement policy and programs; to students; and to citizens. This dissemination needs to be done in a timely manner through multiple means of communication. Who is better equipped to extend expertise than the outreach arm of the land grant system through its networks of human beings in all states and territories, and its electronic capacities through its distance education consortium, A*DEC?

Welfare Reform—The Future for Society

As Robert J. Samuelson said, "The new welfare system is a work in progress, and only time will tell whether it's a work of progress." With the application of the expertise of the land grant system, there is reason to believe that progress can be made and measured. The realization of that progress lies in the commitment of the system, of its faculty, students, staff and administrators, and of our ability to attract or redirect resources toward the challenge. Only time will tell if we have the will to sustain what was begun in 1995 when the BOHS asked itself, "If we don't respond, who will?"

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The Changing Nature of Rural Communities

The Changing Nature of Rural Communities

Thomas G. Johnson
and
James K. Scott
University of Missouri

Introduction

Prior to the decade of the Seventies, when rural communities in the United States entered the period known as the "population turn-around," their role in the larger economy was somewhat clearer than it has been at anytime since. In general, urban areas produced products in the early stages of the product cycle, while rural areas generated raw materials, food and energy, and in some regions, provided low cost labor for the production of products in the mature stage of the product cycle. Private services were generally located near the basic economic activities (production and consumption) which generated their demand. The economic fortunes of individual rural communities, though not particularly good, were closer to that of the average community than they have been since.

Until the Eighties, it was relatively meaningful to speak of rural conditions and the rural problem. Each year, resource-based industries produced more but employed fewer laborers. But, at least communities could count on the linkages between these sectors and their financial, trade and service sectors. Most rural communities also had a predictable and stable relationship with their manufacturing sector.

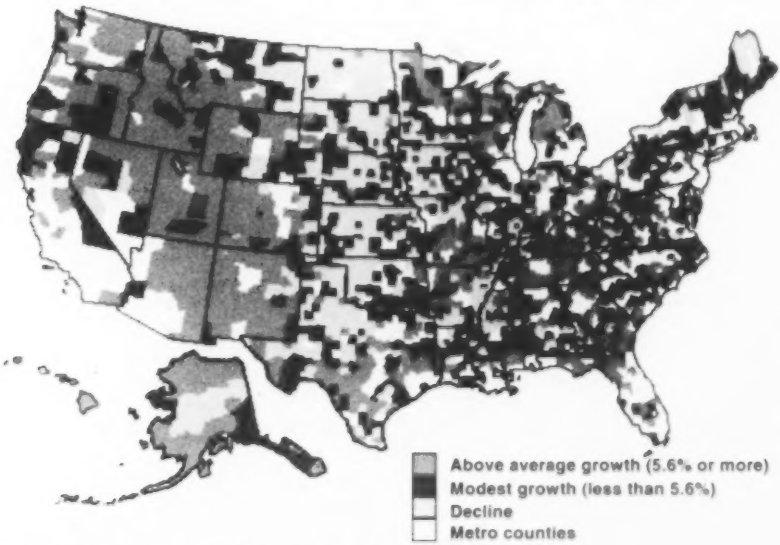
But, even during this period, the global economic structure was beginning to change. During the population turnaround, a fundamental transformation occurred in the sectoral structure of rural areas. As rural America emerged from the Seventies, the short-lived population turnaround seemed to be over, but the basic economic rules were different than when they began. Some communities used the experiences and resources gained during the Seventies to free themselves from the downward economic spiral. These communities are now immersed in a transformation from traditional rural communities to modern ex-urban communities with rising demand for land, changing demands for public services, and new types of stresses and conflicts.

Other communities fell back into decline. The deregulation, the dismantling of community safety net programs, the globalization of economic relationships, and changes in the nature of the product cycle were too powerful for these communities to overcome. For them, the downward spiral of the pre-Seventies era returned in the Eighties.

Evidence from the current decade suggests that, overall, the Eighties may have been the anomalous period, rather than the Seventies. Growth has returned to the average rural community. Yet, the dichotomous experience of the rural communities in the Eighties remains. Despite the fact that growth is occurring in rural communities in every region of the country, one-quarter of all rural communities continue to decline, and three-quarters of all non-metro growth occurred in just one-third of non-metro counties (USDA-ERS). Just as the personal income distribution in this country has spread since the late 1970s (more rich and more poor), so has the disparity of economic fortunes among communities. The economic development issues of today are dichotomous, with a clear distinction between the issues facing the growing and declining communities.

The following map, reproduced from *Rural Conditions and Trends*, shows the dispersed nature of rural growth (Figure 1). Notice that almost all the declining counties are in the Plains region from North Dakota to Texas.

Figure 1. Nonmetro Population Change, 1990-95.



Note: National average growth for this period was 5.6 percent.
Source: Bower, Doug and Peggy Cook, eds. *Rural Conditions and Trends: Socioeconomic Conditions Issue*. Vol. 7, No. 3. Washington DC: USDA/ERS, February 1997.

This paper deals with the economic changes that have led to the dichotomization of economic fortunes in rural communities. The observations and conclusions are based not only on the authors' experience with and research in rural communities in the United States, but also on our experience with the European Union; especially

Northern Ireland and the Republic of Ireland. While the precise nature of change varies from place to place, we believe the following trends are true for many rural areas in the world. We address ten major forces that are shaping rural communities in three broad categories: the changing economy, changing demographics and changing governance.

The Changing Economy

One cannot understand the changes occurring in rural America without understanding the changes, mostly global, occurring in the broader economy. Several forces have combined and are leading to significant changes in rural life throughout the world. These forces include changing technology, globalization and localization.

Technological change. Technological change is so ubiquitous that it heads most lists of change. From the perspective of rural communities, technological change effects more than just the way in which products and services are produced. Technological change has and will change the very economic bases of rural areas, their relationship with the rest of the national and global economies and their internal social structure.

In production, the most significant economic forces are the rising importance of information, communication, robotics, artificial intelligence, genetic engineering, and other embodiments of technology. In addition to the direct effects of these changes on employment, they have led to increased use of services (particularly, information-related services), and reduced use of goods (particularly, raw materials) in the production processes of other manufacturers.

The productivity of labor in most goods-producing industries has risen dramatically (approximately fourfold, or 300 percent, in the last half 40 years). The productivity of labor in services, on the other hand, has increased considerably less (about 25 percent) (Pulver). These increases have been accomplished by combining increasingly greater amounts of capital with each unit of labor. Since the demands for many goods have risen only slightly, the growth of employment in these industries has been meager, if positive at all. Some of this new capital has been introduced to take advantage of the emerging technologies discussed above, while other capital has been substituted for high cost labor. It is important to note that as this trend progresses, the cost of labor becomes less and less important in location and investment decisions because it makes up a declining portion of total costs. This process, then, can have positive effects on income, job security, etc., even while it reduces employment.

As a consequence of technological change, goods production and employment have become decoupled. Production has increased while employment has decreased. Intersectoral linkages have replaced intrasectoral linkages. In addition, the product

cycle has been broken, at least from the perspective of domestic rural economies. Rural areas are losing some of their comparative advantage in goods-producing industries that use labor extensively (Bluestone).

Technological change also effects the relationship that people share with each other, with their communities and with their governments. People are more mobile, more flexible in their choices of employment and residence, and have greater access to information. Technology, then, facilitates and, indeed, foments the other forces identified—globalization, localization and the various aspects of changing governance.

The linkage between productive activity and distribution of income has changed. The substitution of capital for labor affects the functional distribution of income by shifting returns from the owners of labor to the owners of physical capital and human capital. In the case of agriculture, this has resulted in larger farms, shrinking farm population and declining labor income. However, these changes are not nearly as dramatic as those occurring in some mining, forestry and manufacturing-dependent communities. Unlike agriculture, where the owners of the physical capital are much like the owners of the labor that they are displacing, the owners of physical capital in mining, forestry and related manufacturing industries are very different from the displaced labor. In addition, the so-called "Wal-marting of Rural America," in which independent, locally-owned retail businesses and service establishments are replaced by large chain stores, is changing the ownership of physical capital as well.

These new owners of rural physical capital are frequently very affluent, and usually not residents of the community in which their investments are made. They tend to spend their income outside the community and this leads to lower employment and income multipliers in the community (Bernat). The income tends to be distributed more unevenly (Bernat) and be more variable in these communities (Kraybill, Johnson and Deaton; Johnson, Kraybill and Deaton). These factors combined lead to a number of conditions (health, education and housing) associated with lower quality of life (Kraybill, Johnson and Deaton).

Globalization. The "globalization" of the economy is so frequently cited as an important economic force that it has become a cliche. Increased trade and global competition among firms is usually the assumed consequence of this globalization. Of greater significance to communities, however, is the movement of information, technology, capital and people. In addition to the competition in markets for goods and services, then, is the heightened competition among communities around the world for jobs, residents and finances.

Globalization has left many communities unsure of their best strategies. Public investment in human capital often increases the mobility of a community's labor force. In declining communities, this undoubtedly reduces the incentive to invest in

people. Industrialization-incentive programs are very risky and, when successful, attract employers that can as easily be lured away again by another community with another attractive incentive offer.

Localization. Localization is the growing role of local conditions and local choices in determining the prosperity of a community. The reasons for the growing primacy of local circumstances include technological change, changing social and political attitudes, and, ironically, the globalization that has opened competition with the world. Reich, in *The Work of Nations*, describes how global competition means that we, as a nation, are no longer in the same boat. The prosperity of our community depends on if we are competing with the rest of the world as routine producers, or if we have based our economy on efforts of symbolic analysts. Rural communities, then, depend on how well their employment base fares.

There is a growing freedom of all industry, but most strikingly of services, to behave like footloose industries. The declining role of goods, especially raw materials, in production, and the use of information technology has provided both traditionally factor-oriented and market-oriented industries with a wider array of potential locations. Many factor-oriented manufacturing industries choose to transport their raw materials to areas where they are closer to their markets, where amenities are higher, or where factors other than raw products are lower cost. On the other hand, the growing role of information exchanges, communication technology, and computers allow many services and otherwise market-oriented industries to locate at a distance from their markets. Newspapers need no longer be local. National newspapers can exploit economies of size without compromising quality. Satellite and fiber optics technologies allow instantaneous audio, video and information transmissions over long distances. This allows financial, insurance, real estate, educational, business management, accounting, legal, and many other services to centralize some functions and decentralize others but, in general, frees them from locating strictly according to the location of their clients. Indeed, many of these services can be, and are being, provided in international markets just as goods have always been. Retailing will become increasingly footloose as consumer acceptance of mail order and computer shopping rises. New service industries, yet unimagined, will undoubtedly arise to take advantage of the new technologies.

Overall, we observe an emerging economy in which the definitions of economic base, services, public and private enterprise, competition, and even sectors themselves have become blurred. We see an economy in which trusted linkages—linkages between production growth and employment growth, and between base and non-base industries, and between activity and place have been severed. We see an economy in which linkages have become more numerous, but more decentralized, and where distance becomes a resource rather than a cost or constraint.

Changing Demographics

Migration to Rural Communities. As pointed out in the introduction, many rural communities, especially those in the West and East, are experiencing significant inflows of new residents. This in-migration consists primarily of older adults who are, or who expect to be, retired, and of telecommuters or business people no longer tied to particular locations. This trend obviously brings new investment and income to selected communities. It can also lead to rapid increases in prices for housing and other real property. In addition, this kind of in-migration puts significant new demands on private and public services, and can lead to economic and social conflict between the "come-heres" and the "from-heres."

Aging of the Population. As the baby boom generation begins to turn 50 and as life expectancy continues to rise, the overall population of the United States is becoming older. The elderly, especially the baby boomers, tend to be quite mobile and, as we have seen, are increasingly choosing non-metropolitan communities as their destination. Since the poorer elderly may not migrate as readily as the wealthier, declining communities may experience rising poverty and increased demands for social services. Growing rural communities will face increased demands for other public services and amenities.

As residents in rural communities age, more people will receive direct and indirect income from federal transfer payments. In some communities, over 40 percent of total personal income comes from Social Security, Supplemental Security Income, Medicare and Medicaid payments. As aging continues, and as debates about growth in federal entitlements intensify, the issue of transfer payments in many rural communities will become increasingly important.

Settlement Patterns. Changing settlement patterns also affect the nature of rural community life. Increasingly, people are interested in fleeing the congestion, crime and high cost of urban life for the quieter, safer and more affordable surroundings of the rural and metropolitan fringe areas. The availability of highway infrastructure makes this possible. Furthermore, travel in the United States is inexpensive. Transportation systems are in place and employment is increasingly located in the suburbs. These conditions, along with the increased participation of women in the labor force, contribute to increased commuting in rural communities.

In many areas of the country, rural jurisdictions lack the planning resources and the physical infrastructure to respond to this kind of "ex-urban" growth. This growth then exacerbates existing fiscal constraints for local governments and, in some cases, contributes to problems with water quality, air quality and other key natural resources.

Commuting can affect the entire social organization of a community. Prior to the 1970s, rural people tended to live and work in the same place. Now, more people are spending less time in their communities of residence. These people now have less time to contribute to the social, cultural, economic and political life in their hometowns.

Changing Governance

Devolution has become a commonly used term to describe the changing relationship between central and local governments. In September 1997, the Scots and Welsh supported the idea of regional parliaments—a concept referred to as devolution by the British Government. In the United States, devolution refers to the process of shifting policy responsibility from the federal government to state and local governments.

Changing governance is a larger trend than just devolution, however. It includes a fundamental rethinking of how policy decisions are made and how public services are delivered. Our system of governance is changing partially in response to changing societal values and partially as a consequence of technological change. One aspect of changing governance is the growing reliance on performance-based measures. Another is the trend toward privatization. Most fundamentally, governance is becoming more inclusive and broad-based.

Devolution. Throughout the world, communities are faced with the prospect of making more decisions of greater importance than ever before. For rural communities, this is often a tall order given their small staffs and resources, and their limited experience with many of the new areas of responsibility. Each area of responsibility creates its own problems. In the area of economic development, communities, often neighboring communities, find themselves pitted against each in the competition for migrating employers. In health care and welfare reform, communities are faced with new mandates and numerous alternatives for satisfying them.

Privatization. Privatization is the public sector equivalent of outsourcing, which has characterized the changing structure of the private sector for the last decade or more. Outsourcing refers to the practice of going outside the firm for services that have traditionally been provided internally. A firm may shed its accounting, legal, or maintenance departments and contract with an independent firm for the services. Similarly, governments are experimenting with privately-operated prisons, private owners of toll roads, and even private providers of "workfare" and economic development programs.

Privatization affects our perception of the government as well as its operation. Privatization makes government seem smaller, and the economy appear more private

sector oriented than it really is. It also makes the economy appear more diversified than in the past. A critical question, yet unanswered, is what services—in what locations—can be effectively privatized? Will privatization be an advantage or a disadvantage to sparsely-populated rural areas?

Privatization of government functions can be a more efficient way of operating if it encourages innovation and allows smaller governments to capture some of the benefits of size economies.

The preconditions for effective privatization vary from case to case, but some generalizations are possible. First, there should be a potential for economies of size in the privatized activities. This allows a private firm to provide inputs cheaper than a single government could itself. It also encourages the private firms to grow by offering its good or service to several governments or to both public and private customers. Second, appropriate infrastructure must be present to facilitate management over larger areas. This typically includes communications and air transportation infrastructure. Third, privatization may require more formal and sophisticated financing and insurance because of the more limited financial responsibility of the private firm compared to local governments. Finally, privatization works best if there are significant opportunities for innovative practices. Private firms may have more incentive to be more innovative than governments, and innovation leads to improved services and lower costs.

Performance-Based Government. Performance-based government is designed to target limited public resources for maximum impact, to provide incentives for government units to improve the delivery of public services and to hold government more accountable to specific measurable objectives. This trend is seen in a variety of policy contexts. Attempts by the Clinton administration to "reinvent" government, and efforts to implement the recent Government Performance Review Act are visible examples at the federal level. At the community level, states such as Oregon (Oregon Benchmarks) and Minnesota have initiated the use of key performance indicators and specific short- and long-term quantitative targets for each of these measures, identified through a grass-roots process. Performance measured against these targets will, in part, determine local government assistance from state funds.

Missouri, along with other states, plans to develop a community-based response to welfare reform. In this context, communities will be asked to devise local strategies to achieve specific, targeted objectives. The state will then provide financial assistance and the regulatory flexibility to implement that strategy, provided the community achieves its stated objectives. Communities that do not meet these objectives will have fewer resources and/or more restrictions on how state funds are invested.

The trend toward holding communities accountable for effective delivery of public services is a global one. For example, the European Union recently announced an integrated strategy for investing European structural funds in regional economic development. In the current program, EU distributes funds to member states, based on a set of formulae. Member states then have the responsibility to distribute these funds at the local level. In the new strategy—Agenda 2000—the EU will target selected sub-national regions for greater investment, and will award these funds directly to communities, based on how these communities perform against key criteria.

This trend places even more importance on the capacity of rural communities to manage information and develop strategies to interact with that information in ways that help them achieve measurable improvements in the delivery of public services.

Decentralization of Decision Making. The most fundamental aspect of changing governance is the tendency toward greater decentralization in the decision making process itself. Throughout the world, community residents are demanding more direct influence over the decisions affecting their communities. Information technology and communication infrastructure tend to support this decentralization process by reducing the transactions costs involved in becoming informed. They also facilitate the process of achieving agreement by reducing the transaction costs involved in communication.

Thus far, U.S. policies with regard to information and communication infrastructure in rural communities have focused on the "supply" side. That is, a key objective is to assure some minimal level of access to telecommunications infrastructure to residents of all places—great and small. Addressing "demand" side issues is of equal or greater importance. In this case, demand is the capacity and desire to use information technologies. The European Union now funds a broad range of projects designed to enhance demand and build the capacity of local residents and community leaders to use information technologies to make better decisions in the private, public and voluntary sectors. The program, called the Information Society (IS), provides funding for training in computer literacy and application, as well as the development of computer-based community decision support systems.

The capacity of individuals to participate in the Information Society is determined by the quality of information and telecommunication infrastructure, as one would expect. However, other factors include widespread education and training in the use of information, effective promotion of IS, technical support for the diffusion of IS activities, and public awareness (European Union).

Conclusions

Given the significant economic, demographic and governance changes occurring in rural communities—in the United States and in many other parts of the world—the following program responses are particularly important.

Policy Research. The trends discussed here are new, they have global significance, and they are not well understood. As stated above, these changes will afford opportunities for some rural communities to survive and thrive. Some communities will face formidable challenges. Western social science developed largely out of a need to make sense of the transition to the industrial age. The trends discussed here demonstrate how the transition from an industrial- to an information-based society is experienced in rural communities. Community residents must appreciate their stake in such policy debates as those related to medicare, managed care, telecommunications and welfare reform. Policy makers in state capitols and in Washington, D.C., must understand how their choices will affect the quality of life in different places. Researchers must develop the theory, methods and empirical results needed to conduct these kinds of policy impact assessments. Just as the classic social theorists confronted the challenges of the late-Nineteenth Century, rural social scientists must systematically examine the contemporary changes occurring at the community level.

Technical assistance. The demand is already great for understanding the "community consequences" of policy alternatives or of particular economic development strategies. In the future, this demand will only increase. Land grant scientists can play a key role in improving and extending the capacity of local groups to understand their options and make more informed decisions. Toward this end, we have proposed the development of a national network of scientists involved in community level economic and fiscal impact assessment, and in community decision support (Johnson and Scott). As community leaders and residents accept more responsibility and authority for determining their own future, they need a toolbox of practical, quantitative decision tools, as well as the training and support needed to apply these tools.

Reform of local government statutes. In most U.S. states, the authority and responsibilities given by law to local governments are out of date and offer little flexibility. Currently, many small rural government units are experiencing fiscal crises, and must focus limited resources on preserving the most basic of public services, such as roads and water treatment. All aspects of local revenues and expenditures should be re-evaluated—taxing authority, school financing, land use controls, regulation of business and industry, and relationships with other governmental units. Recently, a chief executive for a local government district in Northern Ireland described the role of her local district as that of a facilitator, mediator, partner and champion. In

the future, local public officials in the United States will need the authority, flexibility and resources to play these critical roles.

Exchange of International Best Practices. Often, rural community leaders are spread dangerously thin, and feel they alone face their particular set of challenges or opportunities. Our recent experience suggests that the trends described in this paper are experienced throughout the developed world. Public policies that affect rural places vary significantly from the United States to Canada, the European Union, New Zealand, Australia, and the Pacific Rim. A true exchange of best practices among policy decision-makers, community leaders and social science researchers will provide more insight and support for communities in the United States.

Policy Education. In the information society, people will demand more access and participation in policy decisions at all levels of government. People will also demand more local policy control. At the same time, both citizens and public officials seem less sure about what it is government can and should do. Perhaps there has never been a more important time for land grant social scientists to assist community residents and policy decision makers at all levels of government in understanding the impact of economic, social and policy changes on particular communities. Extension faculty across the United States have long conducted policy education programs. In our judgment, more of these programs must be tailored to address the particular needs of local policy decision makers. They will also need to assist in creating the vehicles and community capacity for a broader, more inclusive local policy decision process.

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Impact of the Wal-Mart Phenomenon on Rural Communities

Kenneth E. Stone
Iowa State University

Introduction

There is strong evidence that rural communities in the United States have been more adversely impacted by the discount mass merchandisers (sometimes referred to as the Wal-Mart phenomenon) than by any other factors in recent times. Studies in Iowa have shown that some small towns lose up to 47 percent of their retail trade after 10 years of Wal-Mart stores nearby (Stone 1997).

Overview

The discount mass merchandisers are not the only threats that small town retailers have faced. In the more distant past (the late 1800s), mail order catalogs distributed by Montgomery Ward and Sears Roebuck caused quite a stir (Mahoney). The mail order catalogs offered large selections at competitive prices. Coincidentally, a well-established railroad system provided nationwide delivery of mail order goods within a few to several weeks. At its peak, Sears Roebuck offered over 100,000 items through its catalog and captured some sales from local merchants.

The next major threat to rural retailers was the automobile. In the 1920s and 1930s, automobiles and roads developed to the point where rural residents gained considerable mobility and could more easily leave their small home towns and travel to shop at larger towns and cities. However, this trend was slowed in the 1930s because of the Great Depression and in the early 1940s because of World War II and its resultant shortage of goods. The late 1940s was a boom time for retailers in both rural areas and larger cities because of the relative prosperity and the great pent-up demand resulting from the Great Depression and World War II.

Shopping malls began to appear in larger trade centers in the 1950s and 1960s. Rural residents were strongly attracted to the new malls because of their ease of access, large selections, controlled climate, easy and free parking and their extended shopping hours. Shopping malls fundamentally changed the way Americans shopped. They drew shoppers from the downtowns to the shopping center location, typically at the edge of town or in a suburb. Shopping centers caused the demise of downtowns, most of which have never fully recovered.

A new format, called discount department stores, began appearing in the 1960s. In fact, K Mart, Wal-Mart and Target stores all began operations in 1962. These were

not the first discount department stores, but they turned out to be the largest chains. The three companies expanded in completely different ways, however. K Mart initially located stores in relatively large communities and spread rapidly across the United States and Canada and, within six or eight years, had become a truly national chain (Discount Store News).

Wal-Mart, on the other hand, initially located its stores in small Southern towns. By opening a relatively large store in a small town, Wal-Mart could quickly become a dominant store (Walton). Furthermore, Wal-Mart's founder, Sam Walton, did not want to outrun his logistical support; namely, his distribution centers. Consequently, Wal-Mart progressed methodically across the United States, always building stores within a day's drive of its distribution centers, and taking over 30 years to become a fully national chain.

Target, owned by Dayton Hudson Company, has selectively looked for markets of opportunity and, after 35 years, is still not located in all the U.S. states. Target will undoubtedly establish stores in every state within a short time.

The 1980s saw a rapid expansion of the discount department stores. In addition, a new store format, called "category killer," began appearing on the scene (Stone 1995). These were large specialty stores that featured nearly complete selections within their narrow category. Quickly, these stores became dominant and, consequently, killed off smaller stores within the category. One of the early category killer stores was Toys R Us, and it remains a dominant toy store today. The buildings materials category was quickly dominated by The Home Depot, but Lowes, Builders Square, Menards and others have also taken substantial market share. The battle within the office supply category is being fought among such stores as Office Max, Office Depot and Staples. Many other categories are being fought over by other category killer stores.

Impacts of Discount Mass Merchandisers

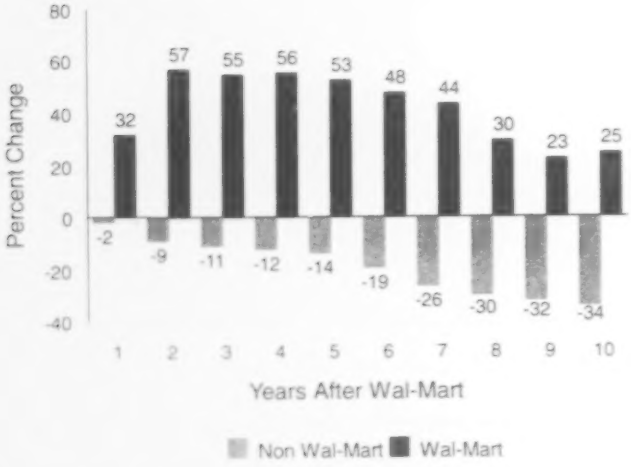
My first study of the impact of Wal-Mart stores was conducted in 1988 to help my clients (Iowa retailers) understand the impacts so that they could better develop strategies to remain competitive (Stone 1991). These studies were updated every two years or so in the 1990s and the results seemed fairly consistent. However, in recent years, it became apparent that the retail situation in Wal-Mart towns was changing. This year, a new study was conducted to determine the situation in Iowa small towns after 10 years of Wal-Mart stores, and those results are reported below (Stone 1997).

The study looked at 34 towns in Iowa that had Wal-Mart stores for at least 10 years. The retail performance of these towns was compared to 15 towns of the same population group that did not have Wal-Mart stores. The population of these towns

ranged from 5,000 to 40,000 persons. Results for two-digit Standard Industrial Classification Codes (SIC) are discussed below.

General Merchandise. General merchandise stores are department stores and variety stores, and include stores such as Wal-Mart, K Mart and Target. Figure 1 shows the average change in pull factors (trade area size) for the 10 years following the opening of Wal-Mart stores.

Figure 1. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns General Merchandise - After 10 Years.

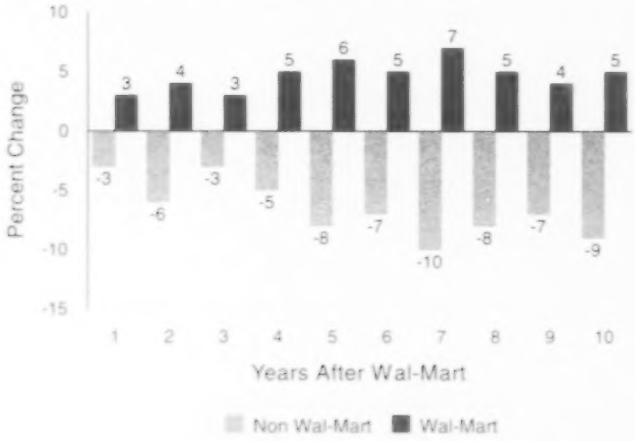


As can be seen, the average growth in general merchandise sales for the Wal-Mart towns was spectacular for the first few years, averaging approximately 50 percent growth (most of which was obviously Wal-Mart's). However, after about five years, sales began declining and, after 10 years, sales were 25 percent higher than before the Wal-Mart store opened. It is believed that this decline in sales occurred because Wal-Mart placed its own stores too close together, causing a predatory effect. At the same time, the build-up of large stores in bigger towns and cities captured some sales from even the Wal-Mart towns.

The general merchandise stores in the non Wal-Mart towns began declining immediately after the Wal-Mart stores opened. Their sales declined by two percent after the first year and continued declining to a cumulative 34 percent after 10 years. A few of these towns had a K Mart store (typically an older, smaller store), and all of them had one or more regional discount stores, such as Pamida, Alco or Place's. It is believed that people in the towns without Wal-mart stores migrated to the towns with Wal-Mart stores to shop for general merchandise.

Eating and Drinking Places. This category includes restaurants of all types and various types of drinking establishments such as taverns and cocktail lounges. Most of the sales occurred in the eating places and they continue to grow. The changes in sales of eating and drinking places are shown in Figure 2.

Figure 2. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Eating & Drinking Places - After 10 Years.

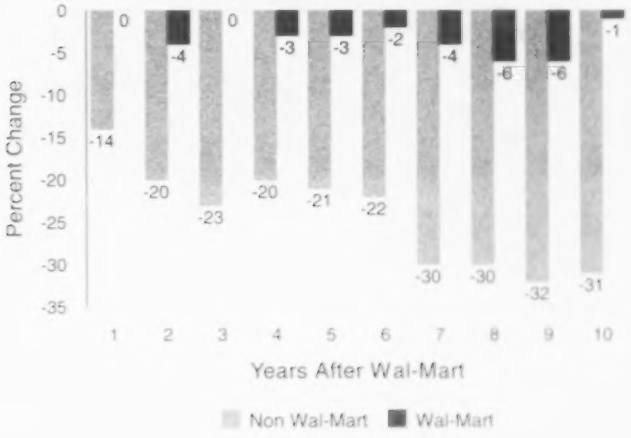


As can be seen, the sales of eating and drinking establishments increased from three to seven percent over the state-wide average for the Wal-Mart towns. Conversely, the sales of eating and drinking places in the non Wal-Mart towns immediately declined and, after 10 years, were still nine percent below the state-wide average. These results indicate that people leave the non Wal-Mart towns to shop in the Wal-Mart towns and while there, they patronize the eating and drinking places.

Home Furnishings. Home furnishings stores consist of furniture stores, major appliance stores, drapery stores, etc. Early studies in Iowa showed that these types of stores benefitted from having a Wal-Mart store in town with its large drawing power. Figure 3 shows the 10 year results.

The initial spill-over benefit enjoyed by home furnishings stores in the Wal-Mart towns eventually eroded somewhat as several later towns had stores so weak that they could not capture this trade. As can be seen in Figure 3, however, home furnishings sales in the Wal-Mart towns declined only slightly, compared to the sales in the non Wal-Mart towns, which ended up declining by 31 percent after 10 years. It is believed that when consumers leave the non Wal-Mart towns to out-

Figure 3. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Home Furnishings - After 10 Years.



shop for one or more items, they probably also use these occasions to shop for home furnishings.

Building Materials. The building materials category consists of lumber yards, home improvement centers, hardware stores, and paint and glass stores. Figure 4 shows the changes in sales after 10 years of Wal-Mart stores.

Figure 4 shows that building materials stores in both Wal-Mart and non Wal-Mart towns experienced immediate and moderate losses of sales for the first few years after the opening of the Wal-Mart stores. The situation grew progressively worse, especially in the Wal-Mart towns which showed a 20 percent decline after seven years. However, starting in about year eight, the sales of building materials stores started improving rapidly and 10 years after the fact, sales were four percent above the pre-Wal-Mart level. Anecdotal evidence indicated that a few of the category killer building materials stores located in some of the Wal-Mart towns, thus improving these towns' sales, while causing the non Wal-Mart towns to experience a decline of 25 percent after 10 years.

Specialty Stores. This category includes several types of stores, such as sporting goods, jewelry, card and gift, druggists, florists, etc. Many of these stores sell merchandise that is competing directly with the discount mass merchandiser and consequently suffer losses of sales. Figure 5 shows the change in sales for specialty stores in the 10 years following the opening of a Wal-Mart store.

Figure 4. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Building Materials Stores - After 10 Years.

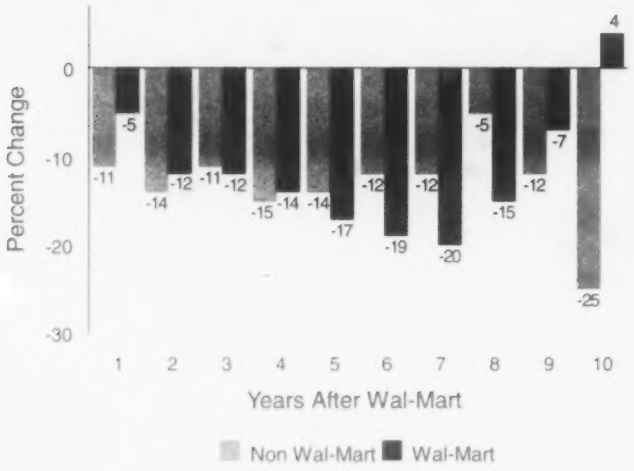
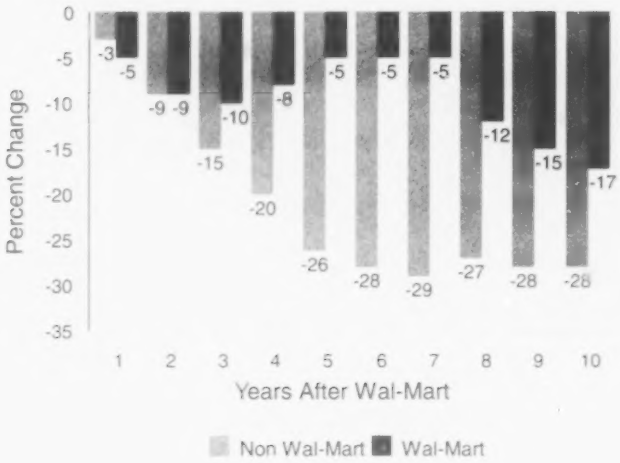


Figure 5. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Specialty Stores - After 10 Years.



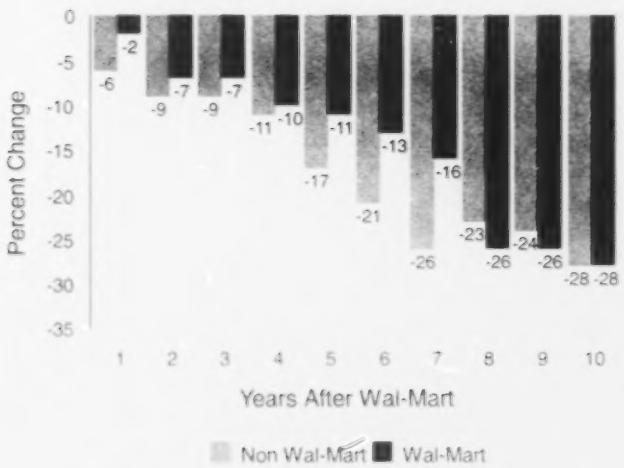
Specialty store sales in the Wal-Mart towns declined by 10 percent after three years of a Wal-Mart store. The situation improved to only a 5 percent decline until year eight when the decline became 12 percent. Sales further declined to 17 percent by the end of year 10. This illustrates that stores selling the same merchandise as a Wal-Mart store will most probably lose sales after a Wal-Mart store opens in their town.

In the non Wal-Mart towns, specialty store sales steadily declined after the introduction of Wal-Mart stores in nearby towns to a low of 29 percent by the end of year 7. This level of sales held fairly steady and year 10 showed a cumulative 28 percent decline, compared to the year before the Wal-Mart store opened. It seems obvious that residents of the Wal-Mart towns were leaving their towns to shop either in the Wal-Mart towns or other larger trade centers.

Apparel Stores. Apparel stores include clothing stores for men, women and children plus shoe stores. Figure 6 shows the changes in apparel stores in Iowa towns after the introduction of Wal-Mart stores.

Apparel store sales dropped fairly steadily in the Wal-Mart towns in the years following the opening of a Wal-Mart store, ending at 28 percent below the pre-Wal-Mart level after 10 years. This probably means that these losses were suffered primarily by the stores selling low-end apparel that competed directly with the apparel sold at a Wal-Mart store.

Figure 6. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Apparel Stores - After 10 Years.



The apparel stores in non Wal-Mart towns also suffered a steady decline in sales in the years after a nearby Wal-Mart opening, ending year 10 at the same 28 percent level as apparel stores in Wal-Mart towns. Again, it is assumed that most of these sales losses were from stores that handled competing low-end apparel.

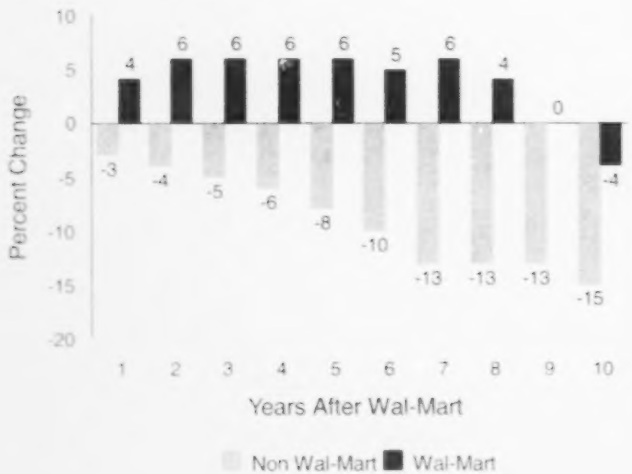
Total Sales. Figure 7 shows the change in total retail sales for the 10 years following the opening of a Wal-Mart store.

Total sales for Wal-Mart towns increased by six percent by the second year and held nearly steady through year seven. However, by year eight, a decline began and by year 10, sales were four percent below the pre-Wal-Mart level. This probably reflects the opening of several mass merchandiser stores in the major trade centers in the last few years that, in turn, captured trade from outlying areas, including Wal-Mart towns.

The non Wal-Mart towns, however, suffered a worse fate than the Wal-Mart towns as their total sales continually decreased over the 10-year period, ultimately ending up 15 percent lower than the pre-Wal-Mart level.

Small Town Losses. It is clear that among the mid-size towns discussed above, the Wal-Mart towns fared somewhat better than the non Wal-Mart towns. But, what was the impact of the mass merchandiser stores on the hundreds of towns with

Figure 7. Iowa Non Wal-Mart Towns vs. Wal-Mart Towns Total Sales - After 10 Years.



populations of less than 5,000? Figure 8 shows the percent change in sales of these towns from 1983 (the first year that Wal-Mart stores opened in Iowa) through 1996. It becomes clear that towns under 5,000 population bear the brunt of the discount mass merchandisers. In most cases, these towns do not have the critical mass of retail stores needed to keep customers at home to shop once newer and larger stores locate nearby.

Figure 8. Percent Change in Sales of Iowa Small Towns 1983-1996.

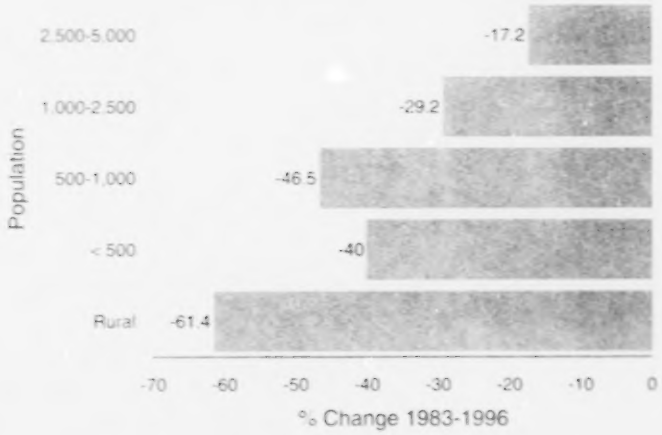


Figure 9 shows the approximate dollar loss of retail sales for these towns from 1983 to 1996. Sales for businesses in rural areas (outside of towns) declined by $742.8 million from 1983-1996. Towns of 1,000 to 2,500 population suffered sales losses of $596 million during this period. In total, towns below 5,000 population, plus the rural businesses, lost retail sales of $2.46 billion during this 13-year period.

Changes in Shopping Habits

After discount mass merchandisers operate in an area for an extended period of time, people gravitate to these stores and, consequently, cause losses of sales to smaller competing stores. Figure 10 shows changes in the buying habits of Iowa consumers for selected stores.

The average Iowa consumer spent 42 percent more money in department stores (primarily discount stores) in 1996 than he or she did in 1983. At the other extreme, on average, consumers spent 59 percent less in men's and boys' clothing stores. This resulted in the loss of over 60 percent of these stores during this period.

Figure 9. Dollar Change in Sales of Iowa Small Towns 1983-1996.

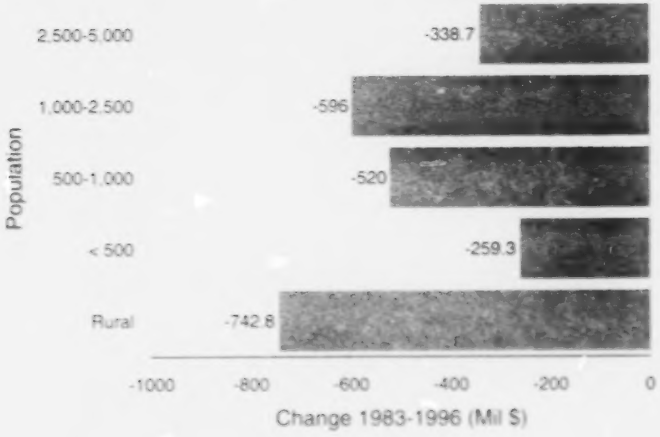


Figure 10. Percent Change in Sales of Iowa Stores 1983-1996.

Public Policy Implications

Public officials often get involved in regulations and statutes concerning the establishment of new mass merchandiser stores. At the state level, Vermont officials attempted to keep the Wal-Mart Company from establishing stores in that state. The policy was well intended and was meant to protect the predominantly small merchants in a small state. However, as time went on, it soon became obvious that the ban was having the opposite effect. As Wal-Mart built stores on the New Hampshire (a no sales tax state) border and on the New York border, it soon began to suck the trade out of Vermont. It is not possible to put fences around a state to keep residents from out-shopping.

Organizations within many municipalities have attempted to prevent mass merchandisers from locating in their areas. Most often, this resistance is organized and supported by local merchants who fear the competition. However, in more and more cases, people who are genuinely concerned about preservation of historic sites and natural resources organize the resistance. Complicating factors in these local debates are growth-oriented local officials such as mayors, city administrators, city council members, county council members, etc. Quite often, they look at the short-term benefits of more employment, and at an increased tax base. But, in the long term, the situation often results in the loss of local businesses—which reduces employment and the tax base. In more and more cases, local officials are actively recruiting the mass merchandisers to their communities and offering attractive incentives. Representatives from the outlying smaller towns have the least representation in this decision making process and, consequently, they suffer the greatest losses.

Conclusions and Recommendations

Rural communities have been losing retail sales to larger towns ever since Montgomery Ward and Sears Roebuck started their mail order businesses. However, the leakage of retail trade from small towns has accelerated in the last two decades with the rapid proliferation of discount mass merchandiser stores in the larger towns and cities. Studies in Iowa have shown that some towns below 5,000 population have lost nearly half their retail trade in the last 13 years. Public officials are placed in difficult situations as they decide whether to recruit and/or approve the establishment of new mass merchandiser stores. There is a need for an educational program aimed at public officials, to help them make better decisions regarding this problem.

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Immigration and the Changing Face of Rural America

Philip Martin
University of California, Davis

Agriculture: Immigrant Port of Entry

Between 1980 and 1996, the United States admitted 13.5 million immigrants, including 3.3 million Mexicans. The number of legal immigrants admitted over the past 16 years exceeds the population of 46 states, and the number of Mexican immigrants admitted legally exceeds the population of 23 states. In 1996, there were 25 million foreign-born persons in the United States, including 5 million who were not authorized to be here.

Most immigrants settle in urban areas. In fiscal year 1995, only 43,600 or 6 percent of the 720,500 immigrants admitted to the United States indicated that they intended to settle outside a metropolitan statistical area, an area defined as a city of 50,000 or more, or an urbanized area with at least 100,000 residents. However, much of the labor-intensive agriculture in the United States is in metro areas, so immigrants in the Fresno, Salinas or Stockton metro areas may well be farmworkers attracted to the United States to fill farm jobs.

Agriculture and related industries play an important role in bringing unauthorized and unskilled Mexican immigrants into the United States, a fact highlighted by U.S. legalization programs in 1987-88. Through two distinct legalization programs, one for persons residing in the United States illegally since January 1, 1982, and the other for unauthorized foreigners who did at least 90 days of farm work in 1985-86, some 2.7 million unauthorized foreigners became legal immigrants. Legalized aliens were 20 percent of all immigrants admitted legally over the past 16 years and two-thirds of the Mexican immigrants.

Agriculture was associated with over half the legalized aliens: including 1.1 million Special Agricultural Workers (SAWs) and 7 percent (or 80,000) of the 1.1 million aliens over 18 who applied for legalization on the basis of being in the United States since January 1, 1982. Agriculture played an even larger role: 25 percent of the pre-1982 adults legalized in 1987-88 had farm jobs in their country of origin and 16 percent had a farm job as their first U.S. job, with half finding nonfarm jobs by the time they applied for legalization (INS, p. 34; Martin, 1994).

These data suggest that U.S. agriculture is a port of entry for unskilled immigrants and that the farm labor market is like a revolving door, drawing in unauthorized migrants to fill seasonal farm and related nonfarm jobs, and then

replacing them with fresh newcomers when they exit for nonfarm U.S. jobs or return to their countries of origin.

Farmworkers: The U-Turn, Illegal to Legal to Illegal

The purpose of the legalization programs in 1987-88 was to legalize the farm work force, and then force farm employers to adjust wages and working conditions to retain newly-legalized SAWs since illegal immigration would presumably be stopped by stepped-up border controls, employer sanctions and fines on U.S. employers who knowingly hire unauthorized workers. This did not happen, largely because illegal alien workers continued to arrive, and they and their U.S. employers could satisfy the letter of the law with forged work authorization documents.

The percentage of unauthorized workers in agriculture went from 20 to 25 percent in the mid-1980s to a low of less than 10 percent in 1988-89, and is currently 35 to 40 percent. Furthermore, legalization and sanctions had the unexpected effect of spreading Mexican workers from the Southwest and Florida throughout rural America. Workers who would have been suspected illegals in New England or the Midwest before the Immigration Reform and Control Act of 1986 were legally authorized after legalization. Employers who hired such workers did not risk having workers removed or fines if they copied the documentation presented.

The spread of Mexican and Central American workers throughout the United States has given the United States an immigrant farm work force. According to the U.S. Department of Labor's National Agricultural Worker Survey in 1994-95, 70 percent of the farmworkers on U.S. crop farms were immigrants. Most farmworkers interviewed were young men—80 percent were male and two-thirds were under age 35, including seven percent under age 18 in 1994-95. The median age of farmworkers was 31 in 1990, median years of education were eight, and 70 percent were married (Mines, et al.).

Farm earnings are low. About 80 percent of U.S. farmworkers have individual farm earnings of less than $10,000 per year—including half with farm earnings less than $5,000.

The National Agricultural Workers Survey also collected data on the family status of farmworkers. About 40 percent of all farmworkers live away from their families while doing farm work. In many cases, husbands doing U.S. farm work live with non-related adults, while their families remain in Mexico. This means that farmworkers' children are often not at the farm where the parent is working. About one-fourth of farmworkers live on the farm where they work.

Over the 1988-1995 period, the National Agricultural Workers Survey found that the percentage of foreign-born and illegal workers increased—70 percent of the hired workers interviewed in 1994-95 were born abroad. The percentage of

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unauthorized workers rose from 7 percent in 1989 to 37 percent in 1995. Almost one in five workers in 1994-95 was working on U.S. farms for the first time and 70 percent of those working on U.S. farms for the first time in 1994-95 were unauthorized.

Most farmworker "careers" last less than 10 years. In the past, many U.S. farmworkers were attracted to nonfarm jobs by higher wages and benefits. In the 1950s and 1960s, according to Hildreth, "they were being *pulled* from the farm rather than *pushed* off the farm" (Hildreth, p. 104). Many immigrant farmworkers returned to their country of origin.

Today, both patterns are changing. There is some pull from nonfarm employers for farmworkers in related industries, such as meatpacking, but so many immigrants are heading directly for nonfarm U.S. jobs that immigrant farmworkers already in the United States may not have an advantage in getting nonfarm jobs. Second, more immigrant farmworkers seem to be settling in the United States with their families, seemingly assuming that the changes sweeping rural Mexico mean that rural America offers them better opportunities over the long run.

Prospects for Change: Agriculture

The current farm labor market resembles a revolving door in which new and increasingly unauthorized workers replace immigrants who exit seasonal farm jobs after 10 years. What are the prospects for change in the farm labor market that are attracting immigrants to rural America?

If the cost and availability of farm labor were to change, the number and characteristics of farmworkers may change, and thus the integration challenge facing rural communities would resemble more of a brief adjustment than an ongoing affair. The major U.S. change that would affect the need for a constant influx of farmworkers is mechanization of tasks in labor-intensive commodities, or shifts in their production to other countries. The major means by which the cost and availability of labor might increase are union activities, government wage regulation and minimum wage setting, or government activities that reduce immigration. All are unlikely to be effective over the next decade.

Unions. Unions have the potential to raise wages, and thereby spur mechanization or shift production overseas. There are at least 12 unions actively trying to represent farmworkers, including 9 in California (Table 1). Unions have long sought to be the major organizing institution in the seasonal farm labor market, displacing the Employment Service (ES) and labor contractors, and using some form of hiring hall to influence farm wages and benefits.

Farmworkers were excluded from the National Labor Relations Act of 1935 which means that they have the right to organize and bargain collectively with farm employers, but not under federal government auspices. Most of the "farmworker"

Table 1. California Farmworker Unions in 1996.

Union	ALRB Certifications 1975-1996[a]	Current Contracts	Percent of Certification	Jobs Covered[c]	Members[b]	Major Commodities	Region
United Farm Workers	450	40	9	20,000	25,000[c]	All	All
Independent Union of Agricultural Workers	12	6	50	800	1,500	Vegetables	Oxnard, Salinas, Bakersfield
Fresh Fruit and Vegetable Workers Local 78-b	22	15	68	900	1,200	Vegetables and Packing Sheds	Salinas and Southern California
Christian Employees Union	173	173	100	585	585	Dairy	Central and Southern California
Teamsters 63	28	28	100	250	250	Dairy	Los Angeles
Teamsters 890	29	4	14	3,400	7,400	Vegetables	Bud-Dole multiregion contract
Totals	775[d]	263	34	12,235	21,835		

[a]Includes unions with 10 or more certifications.
- Unions with fewer than 10 certifications include: Comite de Campesinos Unidos, Teamsters Local 87, 166, 389 and 624, United Stanford Workers, Dairy Employees Union Local 17, and the Wine and Allied Workers Union.
- Unions without certifications and other farm labor organizations include: American Friends Service Committee Proyecto Campesino, San Joaquin Valley Workers Organizing Committee, Laborers International Union of North America, Anti-Racist Farm workers Union, Laborers International Union Local 304, and Trabajadores Agricolas Unidos Independientes.

[b]Average employment on farms under contract.

[c]Persons who pay dues to the union sometime during the year.

[c]About 12,000 UFW members are covered by the UFW's Martin Luther King pension plan.

[d]Includes certifications of unions not listed above.

states outside California—Florida, Texas, Washington, North Carolina, and Oregon—have no collective bargaining agreements in agriculture. The exceptions are the Ohio-based Farm Labor Organizing Committee (FLOC), a 5,350-member union with three-way agreements between processors, farmers and workers on Ohio and Michigan cucumber farms, and the United Farm Workers (UFW) in Washington which, in 1995, signed its first farmworker contract with the Chateau Ste. Michelle winery, covering 200 regular and seasonal farmworkers.

California enacted a state law, the Agricultural Labor Relations Act (ALRA), in 1975 that was, in many ways, more favorable to unions and workers than the National Labor Relations Board. Between 1975 and 1996, the state supervised over 1,600 elections involving 125,000 workers, in which the unions won about half. However, in 1997, there are about 260 contracts between farm employers and unions, and 200 of these contracts are between dairy farms and their milkers. The UFW has about 40 contracts, despite winning elections on 450 farms.

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There were four types of arguments advanced to explain why the UFW failed to obtain contracts with California farmers that might have raised wages and stabilized the work force after 1975 (Martin, 1996). First, it was argued that UFW leadership failures and strategy changes led the union to quit organizing and to isolate itself from farmworkers. Second, the UFW charged that the ALRA, enacted under Democratic governors, was improperly administered after Republican governors took office in 1982.

Third, the structure of farm employment changed in the 1980s in a manner that made organizing and representing farmworkers more difficult. Many farming companies switched from being integrated operations that hired both year-round and seasonal farmworkers directly to a series of separate entities that hired no seasonal workers. One of these entities might own the land, which another farms, while a third markets the commodities produced. The seasonal farmworkers on the farm may be employed by custom harvesters or "super" labor contractors. It is these employers with whom the union would have to make an agreement, not the farmer or marketer.

Fourth, legal and illegal immigration added to the supply of farmworkers. Although, in the early 1980s, the UFW seemed to temporarily defy the laws of supply and demand, winning a 40 percent one-year wage increase in 1980, employers learned that there were alternatives to unionized workers, and many of those that signed UFW contracts went out of business. When the UFW called strikes, other employers turned to farm labor contractors to supply them with workers.

The UFW is back in the limelight in 1997 with its campaign to organize 15,000 to 20,000 strawberry harvesters in California, and 40,000 apple harvesters in Washington. Both campaigns are strongly supported by the AFL-CIO. The Washington apple campaign is being coordinated with the Teamsters union, which is seeking to represent 15,000 warehouse workers. In both campaigns, the UFW is appealing to consumers and grocery stores to support "fair wages and conditions" for farmworkers, stressing how an extra $0.05 cents for a pint of strawberries, or $0.01 per pound of apples, could double pickers' earnings. The UFW has not requested any elections so far in the California strawberry industry (Martin, Taylor and Fix).

It is not clear how successful these union-organizing campaigns will be. Most reports stress that an ample supply of workers is available, making the union threat more one of consumer boycotts than of labor shortages caused by strikes.

Minimum Wages and Labor Laws. The federal minimum wage increased from $4.75 to $5.15 on September 1, 1997. The California minimum wage, currently $5.00, will increase to $5.75 on March 1, 1998. Economic theory suggests that higher minimum wages should reduce employment as the demand for labor falls in response to higher wages, but rising domestic and export demand for labor-intensive commodities seem to have offset any decreases in the demand for labor due to wage increases.

A more serious threat may be labor law enforcement. It is not a secret that labor laws are routinely violated in agriculture, especially by the labor contractors and crew leaders who assemble most crews of farmworkers. The issue of who is responsible for the violations that are uncovered, whether liability should reach back to the farm on which the work was done or stop with the crew leader, could affect employment and immigration patterns in the 1990s.

If there is an ample supply of labor, then most employers seem to prefer a decentralized hiring system involving some combination of directly hiring some workers, and meeting peak seasonal labor needs with intermediaries such as contractors. If there are labor shortages, employers sometimes form associations to obtain the minimum number of local and foreign workers needed to do the work. The foreigners may be admitted as legal non-immigrant guestworkers, be housed away from rural cities and towns in farmer-provided housing, and then return to their country of origin at the end of the season.

The farm employment system has been decentralized over the past decade. Responsibility for labor law violations has been shifted from the farm operator to contractors and other intermediaries. The U.S. Department of Labor (DOL), however, is attempting to interpret the Migrant and Seasonal Worker Protection Act in a manner that would make it easier for the farm operator to be jointly liable for labor law violations with the labor contractor who brings workers to the farm. This DOL enforcement push, combined with an April 1997 federal court decision[1], could push employers to obtain labor collectively, perhaps under guest worker arrangements. A much greater degree of enforcement would be necessary to have such an effect.

More likely, attempts by employers to obtain labor collectively is one of the effects of the concentrated enforcement efforts in California and elsewhere. In California, the Targeted Industries Partnership Program (TIPP), has inspected 4,400 agricultural and garment work places since 1983, and assessed $20 million in penalties against employers. But, what typically happens is that the contractors who are fined go out of business and are replaced by other intermediaries who operate in the same manner. In other words, sledgehammer enforcement in an industry rife with violations is more likely to put individuals out of business rather than change the structure of employment.

Immigration and Guest Workers. Since most of the new entrants to the farm work force are immigrants and a rising percentage are unauthorized, if the U.S.

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[1]Lopez et al. v. May et al., No. 96-35209, in the U.S. Court of Appeals (9th Circuit), found a farmer jointly liable for minimum wage violations committed by the contractor because the farmer, Bear Creek Farms, controlled the overall cucumber harvest schedule and the number of workers needed.

government was to put in place effective means of reducing illegal immigration, the farm labor market could face a series of adjustments. If there were labor shortages, wages could rise—encouraging mechanization—or farmers could press for non-immigrant guest workers, which would also reduce the number of immigrant families settling in rural communities.

The prospects for effective immigration control are poor. The Immigration and Naturalization Service (INS), charged with preventing unauthorized aliens from entering the United States and from obtaining U.S. jobs, has been one of the fastest growing agencies in the federal government. The INS budget has tripled in the past 6 years to $3.1 billion, but seems so far to be unable to prevent illegal entry and employment. The INS has launched several high-profile border control efforts, such as Operation Gatekeeper along the U.S.-Mexico border south of San Diego, but survey and other evidence suggest that most of the foreigners seeking to enter the United States eventually succeed. The probability of apprehension on a single entry attempt remains at about 30 percent, which means that 7 in 10 aliens attempting illegal entry succeed on their first attempt.

Unauthorized workers have no trouble getting jobs within the United States by using false documents; as enforcement actions attest. But unlike pre-IRCA enforcement, employer sanctions impose fewer costs on employers since they are often notified of inspections beforehand, and are rarely fined if they have the completed paperwork on hand. Instead, enforcement involves removing the unauthorized workers from the work place, requiring the employer to hire new workers, and discouraging investments in training new workers whose legal status is dubious.

The enforcement paradox is that immigration agents seem to be more active in new rather than traditional areas of immigrant settlement; more active in Chicago or Georgia or Washington than in California. The reason is that the same budget covers the detection and removal of criminal aliens and enforcement of employer sanctions. In California, INS investigators make the apprehension of criminal aliens their highest priority while, in new areas of immigration, investigators can focus on employer-sanctions enforcement.

With immigrants continuing to pour into the United States, there is little prospect for a new guest worker program, which might slow family migration and settlement. In February 1995, the National Council of Agricultural Employers (NCAE) released a proposal for a supplementary foreign worker program to fill temporary or seasonal U.S. jobs. In 1996, Representative Elton Gallegly (R-CA) introduced the NCAE proposal as the "Temporary Agricultural Worker Amendments of 1995...to provide a less bureaucratic alternative for the admission of temporary agricultural workers."

Under the proposal, growers, labor contractors, or associations wanting to employ foreign farmworkers would have to file a labor condition attestation (LCA)

with their state employment service (ES) office at least 25 days before the job was to begin, listing the number of foreigners requested and when work was to begin. Local ES offices would review these LCAs "only for completeness and obvious inaccuracies" within seven days after they were filed. Employers violating their attestations or program rules could be assessed civil money penalties, and be debarred from the program.

Foreign workers would have to leave the United States when their jobs end or be subject to deportation, unless another employer promises to hire them within 14 days. Under the plan, 25 percent of the foreign workers' wages would have been placed into a federal trust fund managed by the INS, which foreign workers could have reclaimed, with interest, in their country of origin. Foreign workers would have been limited to a maximum two years in the United States. The House rejected this proposal March 21, 1996, by a 242 to 180 vote.

The Integration Challenge in Rural Communities

The face of rural America is changing as a result of immigration and there is little prospect that unions, labor law and wage enforcement, or immigration controls and guest workers will soon reverse immigration patterns. The rural towns and cities that have not been affected by immigration, bilingual education and the other integration challenges posed by immigration are likely to have to deal with them in the 1990s. The following three profiles illustrate the integration challenge.

Rural California. California has long depended on immigrant farmworkers but, in the past decade, more of them began to settle with their families in the towns and cities of the major agricultural areas. Towns such as Parlier include some of the highest percentages of residents in poverty, the highest shares of immigrant farmworkers and some of the fastest population growth in rural America. At the same time, the value of the commodities sold, and of the farm land used to produce them, has reached record levels (Taylor, et al.).

As a result, some of the highest rates of welfare dependency are in the agricultural counties of California, where unemployment rates are also high. In the heart of California's San Joaquin Valley, for example, 29 percent of the residents of Fresno (761,000 population), 30 percent of Merced (199,000) and 25 percent of Tulare (362,000) county residents are on public assistance. At the same time, unemployment rates are in double digits, even in the peak spring and summer months. Despite high unemployment, farmers would like to see a guestworker program introduced.

Putting welfare recipients to work in such agricultural areas may not be easy. Many welfare recipients are mothers with young children. Most entry jobs in agricultural areas tend to be farm jobs that may require heavy lifting or climbing trees.

Parlier is a city of 10,400, about 20 miles southeast of Fresno, whose population is over 97 percent Hispanic. The job pyramid is very steep. The best jobs are those in government, where wages are not influenced by local conditions. Over two-thirds of the local work force in summer consists of immigrant farmworkers, and the second-best jobs are in the farmworker service economy, providing migrant and seasonal workers with housing, rides to work, meals and other services—often for cash wages in an underground economy. Virtually everyone is poor, but the receipt of welfare benefits is very uneven since many local residents are not eligible for benefits.

Iowa. Many Iowa cities with meat packing plants are experiencing immigration as immigrants fill year-round food processing jobs that pay at least $6 to $7 per hour, or $12,000 to $18,000 per year; enough to support a family in the United States. This means that there are fewer solo males in meat packing towns than in the farmworker towns that surround fields and orchards elsewhere in the United States.

The presence of families raises a number of issues—housing, schools, health care, etc. Unlike California, where settled Hispanic migrants often provide many services to newcomers and where immigrants are often segregated in particular areas, immigrant meat packing workers often obtain public and private services from non-Hispanic providers, making them more "visible." This visibility can lead to problems, as when law enforcement officials are accused of harassing Hispanics, or lead to tension over the cost of providing extra services as schools add bilingual education programs.

Neither the industries that are attracting immigrants to the rural Midwest nor the communities that often provided subsidies to attract plants planned for the immigration and integration of the immigrants and their families. Indeed, some argue that programs which give employers wage subsidies for some workers during their first six months of employment, plus the meat packing industry's policy of not offering fringe benefits to workers for the first six months, encourages worker turnover in a manner that minimizes labor costs and maximizes immigration.

Storm Lake, Iowa, is a city of 8,800 and it is home to two meat-processing plants that employ almost 2,000 workers. Storm Lake had three major waves of immigrants over the past 15 years to fill jobs in its Iowa Beef Producers (IAP) plant—two types of Lao immigrants, Mexican Mennonites and other Mexican immigrants. The Lao immigrants were recruited via private networks, and the Mexican Mennonites and the other Mexican immigrants were recruited with the active support of IAP.

The local community is divided over the influx of immigrants. About 24 percent of the children in K-12 classes are minorities, and the school system says that it must spend money on English as a second language classes and bilingual teachers. The IAP pork processing plant counters that it has a $36 million annual payroll in the area, and that schools might close if the plant closed.

Delmarva. The 1990 Census reported that there were 7,000 Latinos in Maryland's Eastern Shore counties and Delaware's Kent and Sussex counties. Estimates are that their number rose to 9,000 in 1994 and, in the Fall of 1996, there were 20,000 Hispanics in southern Delaware and 7,000 on the Maryland Shore; including 1,200 to 1,500 Latinos in Georgetown, Delaware (population 4,400).

The first Latino residents were migrant farmworkers who settled after harvesting vegetables, such as tomatoes and melons, for Delmarva growers. Some 3,000 to 5,000 farmworkers continue to migrate to Delmarva every year, down from 15,000 in the 1950s.

Some of the farmworkers were drawn into year-round food processing jobs, especially poultry processing. Poultry is a $1.6 billion industry on the Delmarva peninsula, which anchors the top of a U-shaped poultry belt that runs from Delmarva south to the Shenadoah Valley, through North Carolina and Georgia, and north to Arkansas and Missouri.

In the fall of 1996, the Delmarva Poultry Industry said that 3,200 Latino immigrants were employed by 6 area poultry processors. Most Delmarva poultry processors participate in the INS's Employment Verification Pilot, in which immigrant A-numbers are sent to the Immigration and Naturalization Service via modem and checked against the Alien Status Verification Index, a data base with 50 million immigration records that is maintained for the INS by Lockheed Martin Information Systems.

Within seconds, the employer gets one of two responses from the Immigration and Naturalization Service—"employment authorized" or "institute secondary verification," which means that the employer sends the INS additional information from the I-9 form. The INS responds to the secondary verification information request within three days. If the employee's right to work cannot be verified after secondary verification, the employee has 30 days to contact the INS and verify his right to work. If the employee has not received work authorization after 30 days, he is not eligible to work in the United States.

Georgetown, Delaware has been transformed by immigration, largely from Guatemala. It had a relatively large supply of low-cost housing and, thus, became the preferred city of residence for immigrant poultry workers. Workers often pay $500 per month to share a house with four to six others. There is a Spanish-language cable television station, a Spanish-language newspaper and a Spanish-language radio station, as well as Latino-oriented stores and restaurants.

According to the Georgetown mayor, local workers shunned poultry processing jobs while "[Guatemalan] people will work 80 hours a week if the plant will let them." A local priest said that the poultry plants turned to Latinos after they "pretty much

exhausted" the local African-American work force. The mayor estimates that the workers mail $300,000 per month to their families in Guatemala. In response to the changing face of Georgetown, a Spanish-speaking police officer was hired in 1996 and a Hispanic state trooper patrols area highways.

Conclusions

There are three major farm labor issues at the end of the 20th Century:

- **The Latinization of the farm and rural work forces** as rural poverty in Mexico and Central America is transferred to rural America via immigration.

- **Unions and farm labor law**, or what will happen to labor standards with an immigrant work force and a proliferation of hard-to-regulate middlemen such as labor contractors, custom harvesters, share croppers and raiteros.

- **Integration**, or how will the settlement of immigrant farmworkers and their families affect the economies and politics of the rural communities in which they settle? Will the first and second generation immigrants find upward socio-economic mobility in rural towns?

Most of the immigrants arriving in rural and agricultural areas are from rural areas of Mexico and Central America, areas with a disproportionate share of these countries' poverty populations. If current patterns persist, poverty in rural Mexico and Central America will be transferred to rural America. The new rural poverty being created by immigration could be difficult to extirpate, since most of the immigrants moving into rural areas to fill farm and related jobs have less than eight years of schooling and speak little English. Unlike the rural poor of the 1940s and 1950s, many of these immigrants, and their children, may find it difficult to find jobs locally that offer them middle-class living standards, or they may move to cities for such jobs.

If current patterns persist, rural America seems destined to be faced with the challenge of integrating immigrants from rural Mexico and Latin America in the 21st Century.

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Impact of Services on Rural Communities

Dennis U. Fisher
Texas A&M University

The American economy is going through deep and irreversible changes. No part of the United States is exempt. Except for the references to job growth and low unemployment rates, this statement about the Northwest could be applied to most regions across America today:

> "...a number of structural changes are occurring in the regional economy and labor market that significantly affect people's job prospects. There is a shift away from manufacturing, with its higher than average wages, and toward retail trade and services, with their lower than average wages. Blue collar jobs are declining and professional-technical jobs requiring post secondary education and training are growing. Part-time and temporary jobs are increasing. And while the region as a whole is experiencing job growth and low unemployment—with employers in some areas reporting difficulty finding skilled workers—many inner-city neighborhoods and rural communities suffer from high rates of unemployment and underemployment. At the same time, public programs that provide people in need with employment, training and social services are being restructured, with greater responsibility given to states and communities." (Northwest Policy Center, p. 1)

This quote focuses our attention on the changes occurring in the American economy and touches on some of the ramifications of those changes. This paper addresses both the role the service sector plays in this transition, and the affects of the changes on the service sector with particular attention given to how all this plays out in rural America. The first section examines the changing role of the service sector in rural America. The second section focuses on two major forces that will shape that role. The final section addresses some policy issues surrounding the delivery of services in rural areas.

The Role of the Service Sector in Rural America is Changing

The Service Sector. The increasing importance of the service sector in the American economy is striking. Between 1969 and 1994, employment in the service sector of the economy increased from 18 percent to 29 percent of total employment (Table 1). This is based upon a narrow definition of services used by the U.S. Department of Commerce (Table 2). If one broadens that definition to include other service-producing enterprises—government services; finance, insurance and real estate; retail and wholesale trade; and transportation and public utilities—the percentages go from 67 percent of total employment in 1969 to 78 percent in 1994.

Table 1. Distribution of Employment Across Economic Sectors.

R-U Cont. Codes*	Narrow Services		Manufacturing		Broad Services		Goods Production	
	1969	1994	1969	1994	1969	1994	1969	1994
	Percent							
0	20	33	23	12	70	82	30	18
1	15	25	24	15	59	72	41	28
2	18	29	24	14	66	78	34	22
3	17	26	22	13	66	77	34	23
4	15	23	27	19	60	70	40	30
5	17	25	18	13	68	70	40	30
6	15	21	22	19	55	64	45	36
7	15	22	18	17	58	64	45	36
8	12	20	14	16	51	60	49	40
9	12	20	11	13	52	61	48	39
Total	18	29	23	13	67	78	33	22

* R-U Cont. Codes refer to Rural-Urban Continuum Codes described in Table 4.
Source: Bureau of Economic Analysis.

Table 2. Definitions of Narrow and Broad Services.

Narrow Services	Broad Services
Hotels & Other Lodging Places	Include Narrow Services Plus:
Personal Services	Wholesale Trade
Private Household Services	Retail Trade
Business Services	Finance, Insurance & Real Estate
Auto Repair, Services & Parking	Federal Government-Civilian
Amusement & Recreation Services	Federal Government-Military
Motion Pictures	State Government
Health Services	Local Government
Legal Services	
Education Services	
Social Services	
Museums, Botanical and Zoological Gardens	
Membership Organizations	
Engineering & Management Services	
Miscellaneous Services	

Source: Standard Industrial Classification Manual: 1987.

Over this same period of time, the relative importance of employment in goods-producing industries—agriculture, manufacturing, construction, forestry, fisheries and mining—dropped from 33 percent to 22 percent of total employment. While the number of workers in other goods-producing sectors increased, the absolute number of people employed in agriculture and manufacturing declined (Table 3). The number of people employed in all service-producing sectors of the economy increased.

Table 3. Percent Change in Employment: 1969-1994.

R-U Cont. Codes	Broad Services	Production	Narrow Services	Manufacturing
		Percent		
0	80	-7	155	-23
1	152	45	252	29
2	99	12	179	-5
3	94	15	163	2
4	73	8	127	4
5	77	15	131	9
6	70	15	103	28
7	67	14	108	35
8	65	15	127	62
9	51	5	103	57
Total	85	5	156	-8

Source: Bureau of Economic Analysis.

Table 4. Rural-Urban Continuum Codes: 1983 and 1993.

Code	Definition
	Metropolitan Counties
0	Central counties of metropolitan areas of 1 million population or more.
1	Fring counties of metropolitan areas of 1 million population or more.
2	Counties in metropolitan areas of 250 thousand to 1 million population.
3	Counties in metropolitan areas of less than 250 thousand population.
	Non-metropolitan Counties
4	Urban population of 20,000 or more, adjacent to a metropolitan area.
5	Urban population of 20,000 or more, not adjacent to a metropolitan area.
6	Urban population of 2,500 to 19,999, adjacent to a metropolitan area.
7	Urban population of 2,500 to 19,999, not adjacent to a metropolitan area.
8	Completely rural or less than 2,500 urban population, adjacent to a metropolitan area.
9	Completely rural or less than 2,500 urban population, not adjacent to a metropolitan area.

NOTES: Metropolitan status is that announced by the Office of Management and Budget in June 1983 and June 1993, when the current population criteria were first applied to results of the 1980 and 1990 Censuses. Adjacency was determined by physical boundary adjacency and a finding that t least 2 percent of the employed labor force in the non-metropolitan county commuted to metropolitan central counties.

The surprising part of this pattern is that it seems to prevail in all size places. That is, both narrowly and broadly defined services demonstrated significantly greater employment growth than manufacturing, or more broadly defined goods production, between 1969 and 1994 for all groups of counties categorized by size of place and proximity to metropolitan areas.

Not all geographic areas fared equally. Many remote areas in the Great Plains and parts of the Midwest experienced declines in employment and population over the time period. However, the predominant pattern is for metropolitan counties, as well as non-metropolitan counties and counties with and without proximity to a metropolitan area, to exhibit this trend toward increasing relative importance of service-producing sectors and declining relative importance of goods-producing sectors.

Private vs Public Services. Private services account for a larger proportion of employment than public services. However, most policy debates focus on public services for two plausible reasons. First, the demand for such services is measured in public forums rather than in the market place. Second, there is a direct link between policy and the provision of public services. By their sheer size, private services are probably as important, and may be more important, to the well being of rural people than public services. In 1994, employment in public services accounted for 19 percent of all the employment in service-providing sectors of the economy (Table 5). Government employment is relatively more important in smaller places than in larger ones, accounting for 28 percent of service employment in places of 2,500 or less population, and only 16 percent in places of greater than 1 million population. Government employment has shown a dramatic and continuous decline in relative importance within service sector employment for all size places from 1969 to 1994. Thus, the role of the public sector in providing employment is declining relative to the private sector.

Some have argued that service jobs are lower paid and less desirable than goods-producing jobs. There is some truth to the lower pay. On average, jobs in service industries have provided lower annual pay than jobs in goods-producing industries. This is true partly because of a shorter work week and partly because of lower wage rates for jobs with comparable skill levels. This means that someone shifting from a job in the goods-producing sectors to one in the service-producing sectors will need to increase job skill levels in order to receive the same wages. However, the conclusion that service sector jobs are not desirable is not warranted for several reasons:

- The service sector is the part of the economy that is growing the most rapidly. A service sector job is preferable to no job.

- Low wage rates indicate a shortage of jobs relative to the labor supply; certainly not a surplus of service sector jobs.

- While the hourly wage structure for jobs in service-producing sectors is lower than in goods-producing sectors, the structure in the former has been rising while it has been stable or declining in the latter.

- Service-producing sectors have a higher proportion of jobs in high wage, high skill categories while jobs in goods-producing sectors tend to be concentrated in low wage, low skill areas (Power).

Table 5. Government Employment as a Percentage of Service and Total Employment.

R-U Cont. Codes	1969	1980	1990	1994
		As a Percentage of Service Employment		
0	23	20	17	16
1	30	26	21	21
2	29	25	21	20
3	31	27	24	23
4	33	29	26	25
5	33	28	27	25
6	29	27	25	24
7	29	26	25	24
8	33	31	29	28
9	34	30	29	28
Total	26	23	20	19
		As a Percentage of Employment		
0	16	15	13	13
1	18	16	15	15
2	19	18	16	15
3	20	19	18	18
4	20	18	18	17
5	22	20	20	19
6	16	16	16	16
7	17	16	16	16
8	17	16	16	16
9	17	16	17	17
Total	17	16	15	15

Source: Bureau of Economic Analysis.

A cursory review of the types of businesses listed in the service sectors suggests a substantial mix of high pay and high skill types of employment (Table 2). Business services, medical services and legal services provide good paying and highly skilled jobs.

As our national economy shifts toward service sector jobs, those workers released from manufacturing and other goods-producing jobs may find themselves ill-equipped to take advantage of newly created high wage, high skill jobs without substantial retraining. Those workers who are not retrained will find themselves competing for the lower skilled service sector jobs. Failure to access the retraining and the better paying jobs can occur for a variety of reasons; some having to do with the capacity and inclinations of the displaced workers, and some having to do with the availability and nature of both training and jobs. So, while service jobs have been supporting rural economies, they may not have provided much help for some displaced workers.

Major Forces Impacting the Availability and Form of Services in Rural America

Of all the forces pressing on rural America, two are having a major impact on the availability and form of services—devolution and telecommunications technology. The first directly influences the provision of public services while the second affects both public and private services.

Devolution. Devolution is the shifting of some control of, and budget for, selected federal programs to state and local government. Of course, only selected programs are shifted and law and regulations circumscribe the flexibility afforded state and local governments. The rationale for this change in federal policy is compelling. Where better could one tailor programs to meet clientele needs but at government levels closest to the problems and the affected parties? Coupled with this is the general distrust of the federal government's ability to effectively administer programs addressing local needs. Unfortunately, devolving a broad spectrum of programs to a single level of government will not likely produce the desired results. Careful evaluation will be needed to determine the appropriate level of government on a program-by-program basis.

One of the primary motivations behind devolution has been the need to bring the federal deficit under control. Devolution represents a shifting of program design and control to the state level accompanied with some budget. The administrative budget has not been part of that transfer, leaving states with the dilemma of taking administrative costs out of program moneys and offering a smaller program, or raising additional funds to administer the programs. This is not an easy choice.

Devolution, to some degree, ignores the question of national interest. The programs in question were initiated at the federal level partly because policy makers identified national interests that superceded state and local interests. There was a belief that the national interests would not be served if these programs were administered at the state and local levels. Have state and local interests changed since placing these programs at the federal level? Are state and local interests now consistent with national interests? Maybe the federal budget pressure has just helped us see these issues more clearly.

Another likely outcome of devolution is a precipitous drop in federal funding similar to what occurred with general revenue sharing. Recall that general revenue sharing was initiated in 1972 and reached its peak in the early 1980s (Fisher). The federal government began providing a significant level of funding for state and local governments. Local governments, in particular, began to depend upon the federal government for as much as 10 percent of their funding. The funding levels then dropped quickly, with Congress terminating the program in 1986. General revenue sharing was terminated because the program was politically untenable. Federal politicians were collecting revenue while state and local politicians were getting the credit for spending it. Devolution is similarly untenable. Federal politicians will not long pay the price for collecting funds that other politicians get the credit for spending.

All this is to say that devolution will have a profound and unsettling impact on the delivery of public services. Will programs be better tailored to meet local needs? Probably not, unless devolution is crafted very carefully. Will the national interest be served across the United States? Probably for some programs but not for others, depending upon whether states and local governments have changed or whether the initial rational for placing programs at the national level was flawed. Will funding for programs be erratic? Most likely. State and local policy makers must prepare themselves for another roller coaster ride like what happened with general revenue sharing. It is coming (Rural Policy Research Institute, 1995).

The Telecommunications Revolution. While the effects of devolution will impact primarily public services, the telecommunications revolution is impacting both public and private services and almost any other part of our economy and society you want to consider. It will likely influence the location of economic activity as greatly as railroads, the interstate highway system, and rural electrification combined (Rural Policy Research Institute, September 1996, November 1996 and May 1997).

Telecommunications has made the virtual office a reality, opened world markets to remote locations and vice versa, and has revolutionized the nature and availability of information. The capacity to deliver many services in isolated areas has been greatly increased. However, for access to be a reality, areas must be connected. Those areas that do not connect will be more isolated than they were before the technology became available.

To what extent will rural areas connect and what services can be delivered? Physical infrastructure is lacking for some rural areas. In many locations, the telecommunication lines are not of adequate quality or do not have the capacity for effective connection. The new satellite technology may bypass some of those limitations, but lack of physical infrastructure will continue to limit access for some areas. The U.S. Telecommunications Act of 1996 has provided for "universal service" to schools, libraries and health care facilities at discounted rates. Coalitions are encouraged but including non-eligible entities like businesses is difficult. Rural areas have the option of choosing the level of service desired. If a minimum level is chosen, this could leave out rural businesses and some government entities. The potential use of the system would have been greatly enhanced had the law facilitated government and business participation in the coalitions.

However, these challenges are probably not going to be the limiting factors for full participation of rural areas in the telecommunications revolution. The primary impediment will likely be cultural. While urban areas are already fully involved, many people in smaller places are not inclined to try. One can only speculate as to the extent and location of cultural resistance to the new technology. The new technology will result in more effective delivery of public and private services in selected rural areas, and access for private services to world markets. However, those areas that do not connect will receive less services, either private or public, and will experience increased isolation.

Fundamental Policy Questions

Before policy alternatives can be effectively crafted and evaluated, one must answer the basic question, "Policy for what?" Do we want a safety net under people or places (Bolton, 1995 and 1992)? We seem to be stuck in the middle of a transition. There is dissatisfaction with entitlement programs that place a long-term safety net under people, and an increasing national interest in community or place. However, we are not very close to sorting out the mix of place versus people policy. One sticking point may be the difficult issue of triage. Which places do we help and which do we let die (Rural Policy Research Institute, March 1997)?

Do we want policies that generate development, help communities cope with structural changes in their economies, or address poverty? The present Enterprise Community/Empowerment Zone (EC/EZ) program of the Clinton administration is targeted toward multi-community areas that rank high on some measures of poverty, yet the program provides for some infrastructure creation. Thus, the criteria used to target the program are focused on the individual while the benefits of the program are focused on places. Targeting by using measures of poverty may not result in the best development or place policy and vice versa.

Historically, substantial federal resources have been focused on rural areas. However, there is some indication that mix of spending may have adversely affected the productivity of rural areas relative to urban areas. A 1980 Economic Research Service study indicated that the mix of federal dollars going into urban areas favored investment-type spending over transfer payments considerably more than was true for rural areas (Reid and Whitehead). This work was later updated for the Great Plains region of the United States with the same results (Kusmin). To the degree that this is true, some of the lower productivity exhibited by rural areas may be the inadvertent result of federal rural policy. Careful attention is needed to craft a rural policy that produces the desired results, whatever they may be.

The national rural policy area is not getting any clearer. While agriculture, forestry and mining interests have historically dominated the rural agenda, "new" interests are having a profound effect on the policy debates—these include environmental and recreational interests, groups interested in animal rights and those concerned with endangered species. These interests cannot be described as new and they are coming from both residents and nonresidents of rural areas. This proliferation has broadened the debate from people versus place to include animals and the environment. The fundamental questions have not become easier, but answers are needed to facilitate the design and evaluation of policy alternatives.

Should policy focus on people or places? How should we handle the triage question? How we answer these questions is important but that they *be* answered is even more important. Then, we can debate alternatives focused on service sector development versus current federal, state and local efforts that often focus on reversing global trends in goods-producing industries that traditionally supported rural America. The service sectors, particularly private service sectors, are increasing in importance in rural America. Policies that promote these sectors should have substantial development promise.

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